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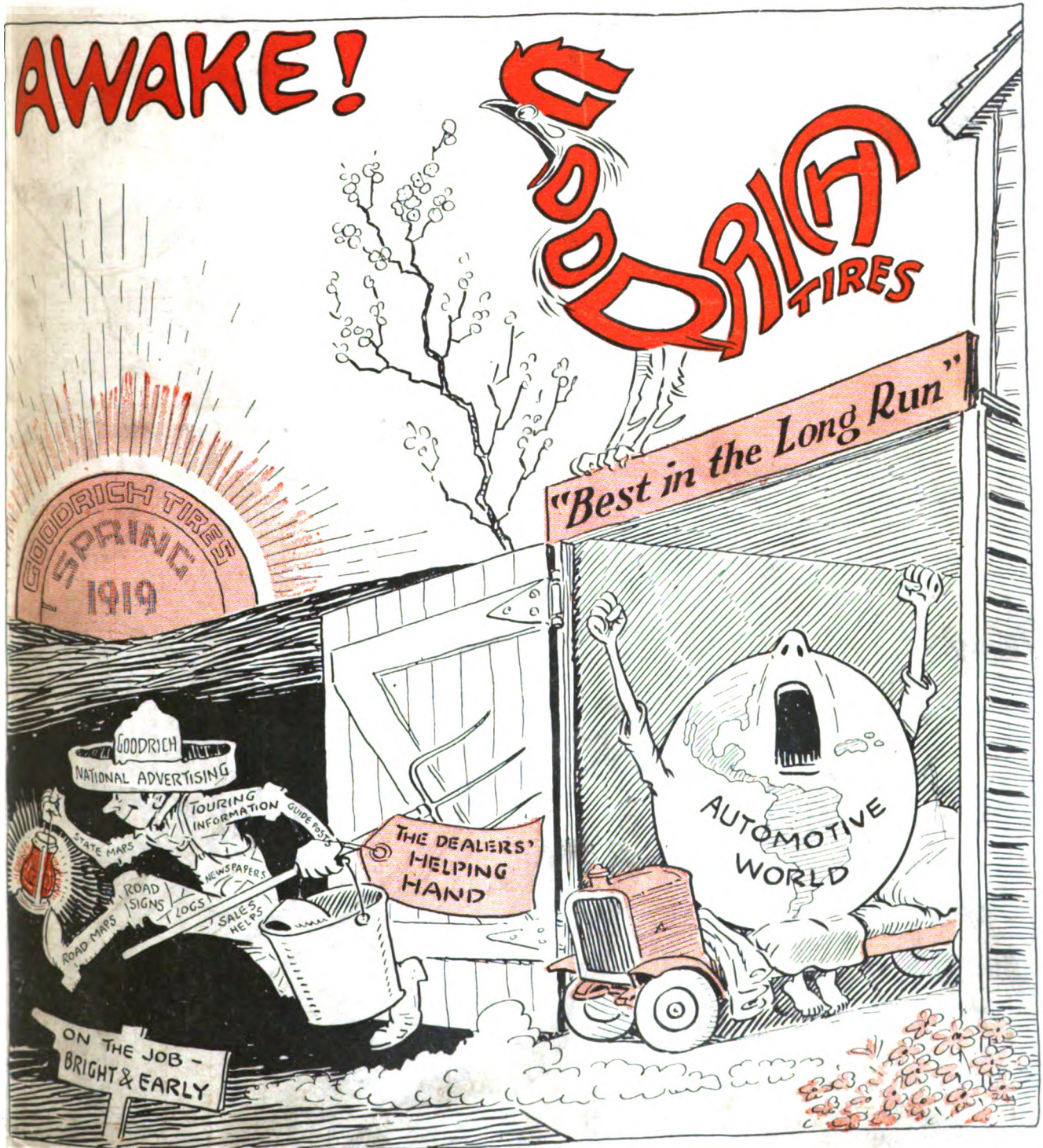
# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 1

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, APRIL 2, 1919

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Two dollars a year





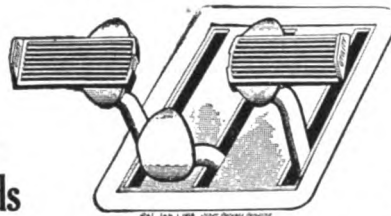
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For  
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# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

229 West 89th St., New York City. 'Phone Bryant 8760  
PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

Keep Going .....	8
Keeping Wreckage from Trade Waters .....	10
Brooklyn Opens Its Double-Header Show .....	12
Reilly Story .....	15
Why a Dealer Must Know a Tractor .....	16
The Law .....	18
Packard Airplane in Production .....	19
Better Mechanics .....	21
Shooting Troubles .....	23
Repairshop Shortcuts .....	24
Editorial Observation .....	26
Letters from Readers .....	27
Automotive Equipment .....	29
Retail News .....	31
Regular News Department .....	33
Calendar .....	44
Specification Tables .....	45

Advertisers' Index on Pages 152-153

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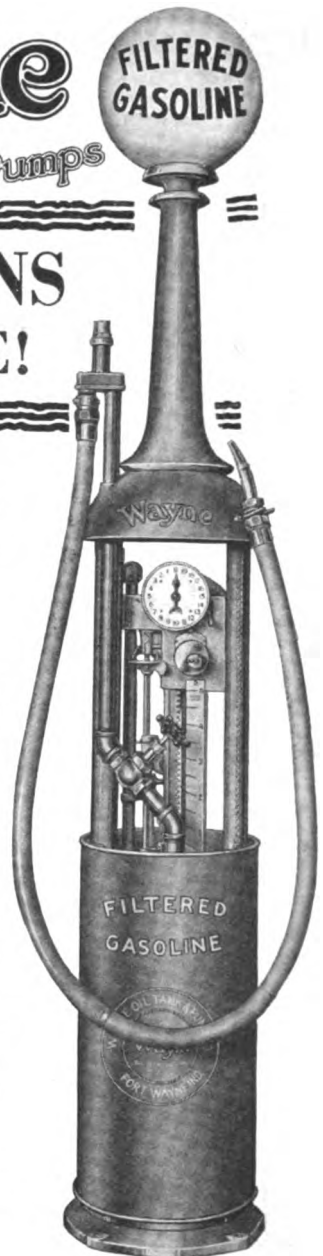
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# Velie

## A Proposition Not Matched In the Whole Light Six Field

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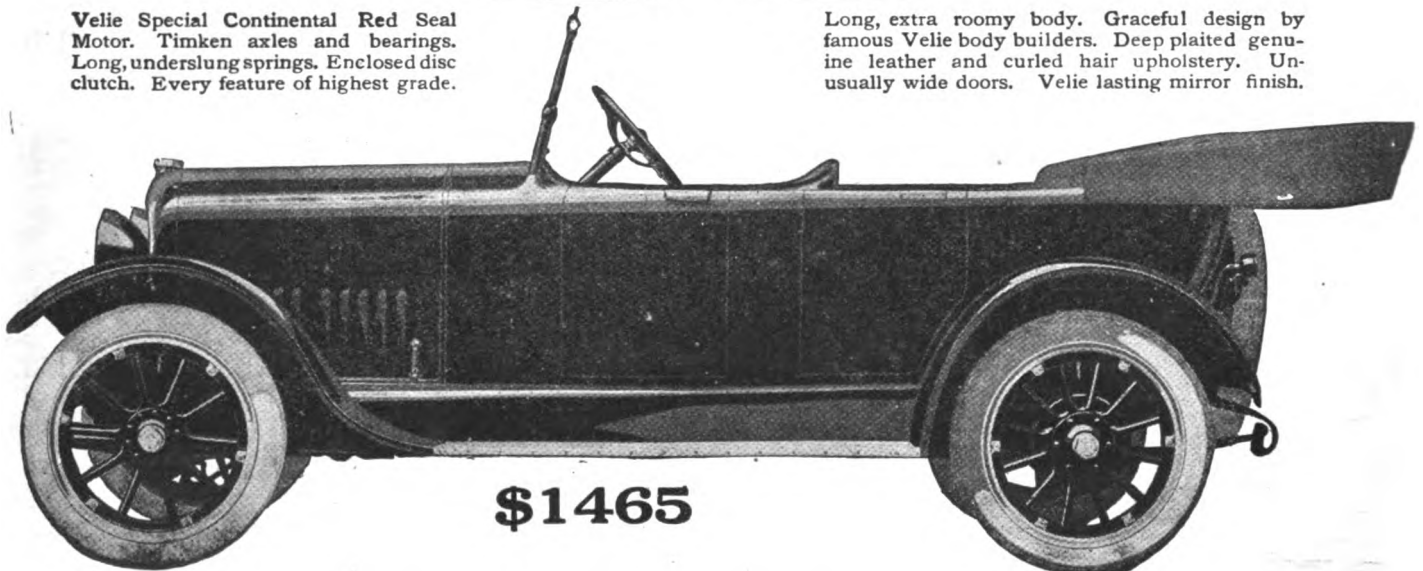
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*Builders of Automobiles, Motor Trucks and Tractors*

Velie Special Continental Red Seal Motor. Timken axles and bearings. Long, underslung springs. Enclosed disc clutch. Every feature of highest grade.

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Are you often troubled with a money loss in your repair department?  
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Well, after that story appeared Chamberlain received hundreds of letters from dealers all over the country asking for further information. *Thinking men recognized this plan as a great thing.*

*It is the greatest idea in service and repair work that has been developed in this trade from its beginning until now.*

And in order that the *whole* trade may have the benefit of Chamberlain's experience and research he has written a complete story of how he did it and *how you may do it.*

It tells the whole thing from beginning to end and is illustrated with forms and charts.

It will run through several issues of Motor World, and—

The first chapter will appear April 16 in the annual

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*Get this first chapter with its colored charts and forms and follow the story through. Years spent in school might not mean as much to you FINANCIALLY as a close study of Chamberlain's story.*



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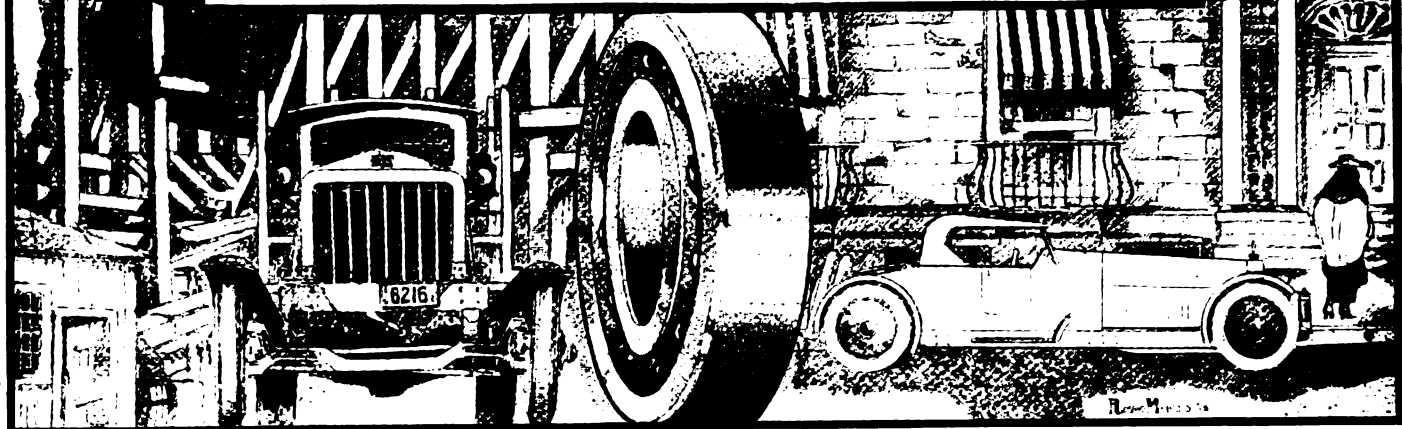
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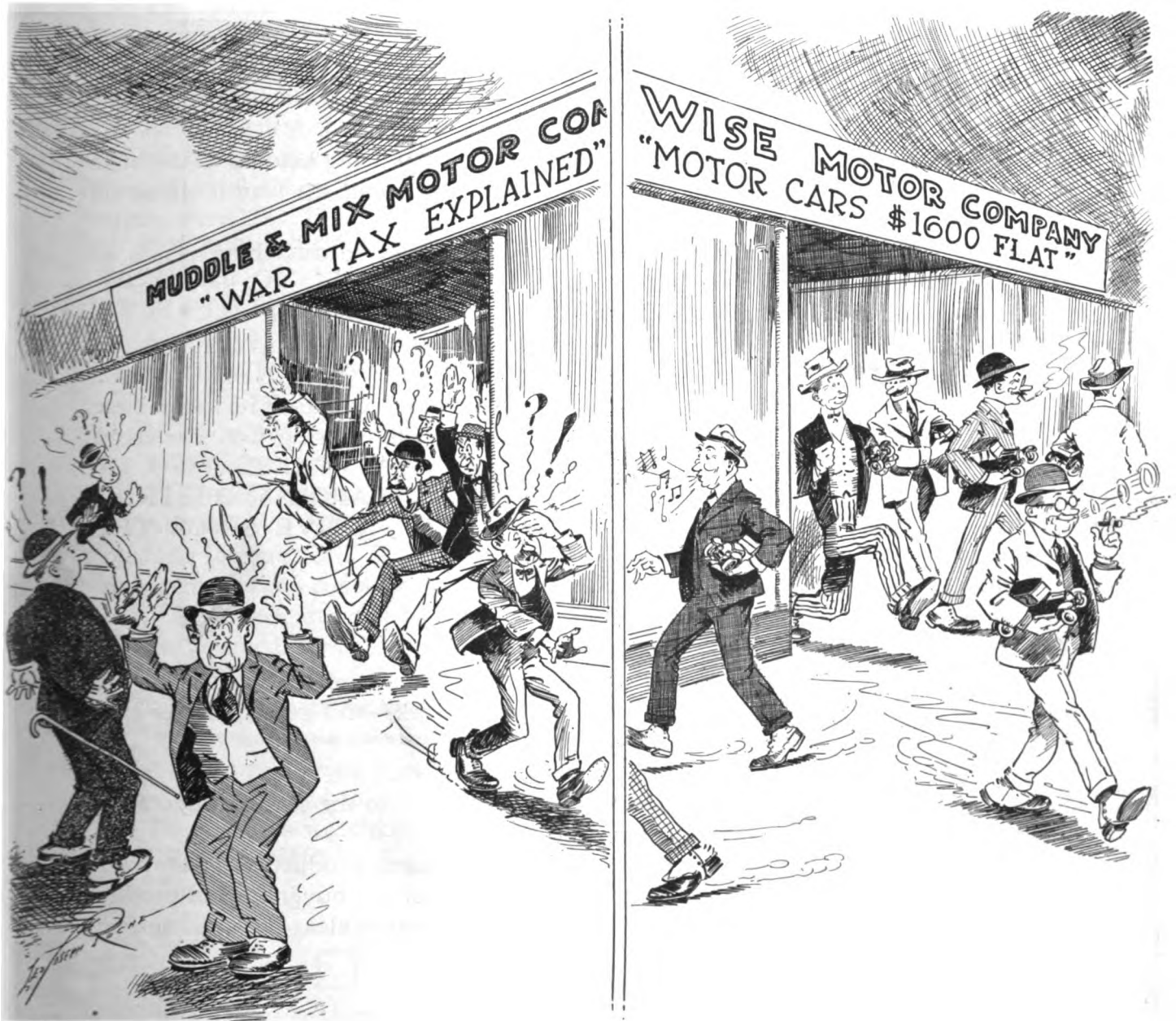
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, April 2, 1919

No. 1

## Quit Talking About the Tax





# The World Is Watching YOU—Go!

—  
Keep Going!



**D**O you know that the automobile industry is to-day being held up to the business world as an example for all business because of the way it shook off lethargy and **FORCED BUSINESS BACK?**

Do you realize that **YOU** are one of those who helped do this thing which all America now says everybody else should do?

**LET'S ALL BE PROUD—AND KEEP RIGHT ON GOING.**

In his statistical reports Roger W. Babson, wizard of financial prediction, says: ". . . **THE INDUSTRY IS ALREADY STRONGLY ORGANIZED FROM A SELLING STANDPOINT,**" and is ready to buy the products of its normal use.

And Charles J. Lang, president of the Lakewood Engineering Co., Cleveland, speaking of **AUTOMOBILES AND DRYGOODS**, says: "**THESE TWO INDUSTRIES ARE PERHAPS THE ONLY TWO LARGE INDUSTRIES WHOSE BUSINESS HAS BEEN AND IS NOW ACTIVE SINCE THE ARMISTICE.**"

Why? Was it luck? Was it a natural return to business?

It was **NOT! DECIDEDLY NOT!**

It was the dealers, the trade, that did it.

Do you remember the condition that prevailed at the time the armistice was signed? Factories were nearly 100 per cent on war work—and getting closer to it every day.

Some parts of the country were overstocked with cars.

Dealers' organizations were depleted, men had gone into the service, buyers had crawled into their holes, and things looked black.

Looming over the horizon could be seen the returning production of the war-busy factories—and there was no prospect of a return of the buyers. Had production ever caught up with demand it would have taken years to clear the wreckage out of this industry.



□                      □                      □

The dealers for 2 years had been fighting—fighting to meet war's demands and fighting to keep their organizations intact—fighting for this, that and the other thing. Wherefore, in these dark days just after the armistice they said: "It's just one more battle. Let's go at it!"

And they did.

**THEY FOUGHT AND WON THE BATTLE OF BACK-TO-BUSINESS.**

The first move was a meeting of the National Association of Automobile Show Managers in Cleveland. The shows were put back on the map. They had previously all been called off.

Then began a campaign of propaganda. Activity began everywhere. Shows were held in towns where they had never been held before. Advertising was resumed. Salesmen began to work. The newspapers began to help. And business began to come back in 60 days.

After the first shows—every one of which was held by dealers—it was apparent from their success that the industry had saved itself. MOTOR WORLD has a record of 98 shows this year—more than ever before in any season. A year ago there were 83.

**ON TOP OF IT ALL THE TRADE IS NOW SWINGING INTO A GREAT REVIVAL OF THE DAYS OF CONTESTS, SPORTS AND PUBLICITY. IT IS STILL FORCING BUSINESS.**

And that's why other businesses are saying: "LOOK WHAT THE AUTOMOBILE INDUSTRY HAS DONE! THAT'S WHAT ALL BUSINESS NEEDS!"

YOU helped to do this thing, no matter what your place in this trade.

YOU helped save the third greatest industry in the world from disaster.

YOU will never know what might have happened had you not done your part.

And NOW—KEEP RIGHT ON GOING. If you are a dealer, keep right on pushing for business. If you are a salesman, keep right on selling. If you are a garageman, keep right on garaging. If you are a stenographer, keep right on working. If you are an office boy, be the most efficient office boy in the world.

No matter if there is nothing to sell, do SOMETHING. Sell MORE repairing. Sell USED cars. Sell SUPPLIES. Take orders for the FUTURE. Sell TRUCKS. Whatever you do, DON'T SLACKEN.

We are now in a condition of car shortage. WE MUST KEEP IT SO. As long as demand keeps ahead of supply our business will be good. And it can be so if we all keep hard at work—as we have worked since November 11, 1918.

The world is watching YOU go.

**KEEP GOING!**

□                      □                      □



*['No man has a right to go into business and not make money. It is a crime to go into business and lose money, because it is a curse on the rest of the community.']*

# Keeping Wreckage from Trade Waters

**Jobbers' Credit Men Have a Duty to Themselves and to Their Customers—They Must Prevent Their Dealers from Getting Too Much Credit and Must Bring the Standards of the Business to a Higher Point**

*[Every Jobber and Dealer Should Read This Story]*

**A** FEW days ago in Detroit the Automobile Accessories Branch of the National Hardware Association held a meeting. A lot of things were said on many different subjects. All those present, including many makers of automotive equipment, are deeply interested in the future of business.

One of the important subjects discussed was that of credit. The chief speaker was E. E. Patten, buyer

for Rice & Miller, Bangor, Me. Patten had some interesting views, and the convention found something to think about. He pointed out that the credit man's duty is twofold—to his house and to his customers.

*The convention was agreed that prices cannot come down, that buying should go on, that a guarantee of prices helps the trade, and that the prospect for the future is good. As to credit Patten said:*

**I**MPROVING credit conditions? Why the necessity of improvement?

We will all admit that the Trade Acceptance is a wonderful factor in modern finance and bound, solely on its own merits, to become increasingly so, even though we do not agree that it is the one and only panacea for all credit ills.

Yet when we adopted it about a year ago a few of our competitors made so much capital of it by telling the trade that they would sell them goods on credit without asking them to sign a note or trade acceptance for the amount that we were forced to abandon the plan for the present.

Even our bankers, members of the Federal Reserve System, at that, penalized us on collection charges. However, let us subject it to a critical consideration, assuming that you are all convinced—as I am—that there is not only room, but imperative need, for improvement. If any one should question the need I can only say that in our experience *we have found the business death rate in the garage and automobile trade about double that in our other lines.* By death rate I do not mean failures only, but all business changes, as many are farsighted enough to get out of the business before they fail.

Presumably I am expected to outline a plan of procedure whereby we might eventually reach that Utopian state when past due accounts, reserves for bad and doubtful accounts, collection expenses

and other similar words, phrases and accounts, would be entirely eliminated from our business vocabulary; when the credit man has laid down his pen and gone to work in the packing room or in some other productive capacity, and Dun's and Bradstreet's books have fallen into a state of innocuous desuetude.

## Debt Losses Can Be Reduced

However much we all feel that this day is still very far away in the dim, indefinite future, we are all agreed that a great advance in the right direction has been made in past years; that approached in the proper spirit we shall make still greater progress in the future. I have enough faith in the abilities of the business men of this nation to believe that we can solve the problem, and, while bad debt losses can never be entirely eliminated, they can and will be materially reduced.

The problem before us calls for an analysis and study of the underlying causes of business failure and, having found the source of trouble, we must apply the necessary correctives.

According to results of Bradstreet's compilation of statistics covering a period of years, *it has been shown beyond possibility of successful contradiction that the individual is largely responsible for his own success or failure*—in other words, in the great majority of failures the cause is inherent in the individual him-

self. Accordingly we shall confine our attention wholly to those cases which might be considered the personal element.

Consideration of this subject will be confined wholly to experiences with and conditions peculiar to the garage trade, though these observations might apply with only slight modifications to *any* line of business.

Consider the class of men with whom we must do business. The man starting a garage is apt to be a good mechanic with little or no capital and with an almost total lack of knowledge of the fundamentals of good business. Dissatisfied with his job or eager to corral some of the enormous profits which he sees—or *thinks he sees*—his employer making, he decides to open a garage for himself. And here comes the first problem.

He rents a shop and embarks on his business career. Usually most of his capital goes into equipment and tools necessary for his new enterprise. His lack of knowledge of the fundamental principles of business can be blamed for the fact that *too large a proportion of his capital has gone into fixed assets* and his returns do not come in sufficiently fast for him to meet his maturing obligations, and *he finds himself handicapped from the beginning.*

Believing that he will take with him most of the customers of the old concern he lays in a large stock of parts and ac-



cessories to be ready for them when they call—and many times the call comes so late that the profit has all been consumed by the inevitable overhead before he has an opportunity to use the goods.

Another thing that makes it hard for the garageman, and especially the smaller one, is that the peculiar nature of the business makes it very inconvenient for him to keep adequate records. He may be a good mechanic, and, due to the fact that his entire time and attention are consumed by the mechanical details of the shop, he neglects to attend properly to the necessary accounting duties. We can recall instances where a man's wife has been an equal factor with him in his success, in that she attends to the office work and collections. Of course, not all of them have wives, and probably all wives would not be capable of handling this part of the business.

#### Better Accounting Needed

THE POINT I AM TRYING TO MAKE, HOWEVER, IS THAT IT IS IMPERATIVE THAT SOME ARRANGEMENT BE MADE WHEREBY THE ACCOUNTING BE GIVEN THE ATTENTION IT DESERVES.

This also explains why the garageman frequently has so many slow-pay customers on his books.

The various other elements entering into the consideration of this subject, such as speculation, neglect of business, extravagance and fraud, need not be elaborated upon, as until human nature has been completely changed these tendencies will be ever present. Needless to say, the credit man must always have his ear to the ground, with his mind in a receptive attitude, as oftentimes valuable information will come to him from very unexpected sources.

Another point to be mentioned is the ever-present specialty salesman. Not that we do not value highly the help he has given us, but our smaller customers must have a credit limit and should not be urged to buy up to this limit on one item alone.

*I believe that the specialty salesman should always cover the territory in conjunction with our own men and be advised by them in regard to what would be a reasonable quantity for any customer to buy, especially such items as lubricating oil, tires and the items that easily run into large amounts.*

I have in mind an instance of an oil concern that apparently is trying to make a jobber of every garage. In one instance, particularly, a carload of oil was sold to a small-town garage, with a blank rating in Bradstreet's, at the same discount given the regular recognized jobber, not only overloading on this one item but making it exceedingly difficult for the owner to meet his other obligations.

Now, perhaps we jobbers must share some of this responsibility, perhaps we are frequently overanxious to swell our volume.

It is my belief that the remedy for

existing conditions lies almost wholly within our power to administer, and, having outlined some of the causes responsible for the slow-pay and no-pay customer, let us consider briefly what can be done to eliminate or at least reduce this expense burden.

#### Heart-to-Heart Talks

First we assume that every jobber has a credit department that is fully alive to its responsibilities and opportunities and fully capable of measuring up to them. The credit manager is anxious to see the firm get all of the business it can safely handle.

Having this equipment, it is the duty of the credit manager, personally whenever it is at all possible, to ascertain how much knowledge the prospective customer may have of the fundamentals of good business.

*If he is somewhat deficient in this respect, a good heart-to-heart talk, given in straightforward man-fashion, helps wonderfully.*

Of course, it is not always possible to meet every customer personally and in a limited time learn of all his faults and weaknesses. This is where the salesman and the credit man must co-operate. *The attitude of the average salesman is that the credit man is continually tearing down the business that the salesman is building up. But nothing is further from the truth.*

Every credit man worthy of the name, and with the best interests of his firm at heart, is just as anxious to increase business as is the salesman. Both should be actuated solely by the desire to do all the business that can be done safely and at a profit.

#### Salesman Should Assist

The salesman should and usually does have as good a knowledge of the fundamentals of good merchandising as the credit man and should be as anxious to see that his customer follows along the lines recognized as being safe and necessary for a successful business.

He should firmly believe—and in this should be backed up by his house—that he is not justified in selling anything on which the customer cannot make a profit—nor should he sell him more of a given item than can be disposed of in a reasonable time. It appeals to me that any stock that does not show a clean turnover of at least twice a year should be designated "dead stock" and be discontinued. The capital involved can be better used in live lines.

*The quick turn-over is the real secret of successful merchandising.*

The credit man should constitute himself a business adviser to the customer and gradually direct him into the proper paths. If carefully handled, this can be done without friction, as the average dealer is only too glad to be able to call upon the jobber for advice and suggestions relative to the proper conduct of his business.

Of course, if the necessary amount of capital is not forthcoming to assure the

success of the venture, the credit man should show the prospective customer the inadvisability of beginning until sufficient capital has been secured. The function of a jobber is the distribution of merchandise AND HE CANNOT ECONOMICALLY OR CONSISTENTLY ACT AS BANKER.

*The credit department should also take some pains and be willing to spend a little time and money to assist the beginner in devising and installing a proper accounting system.* This should be simple and require a minimum of time and effort; it should show at all times a man's standing and costs of doing business, so that he can be in a position to recognize and eliminate non-paying lines. The item of used cars taken in exchange on sales of new ones should always receive special attention. In our experience we have seen a dealer's prospects changed very much for the worse by this one item.

Another thing that is not only desirable but necessary is a closer co-operation among the credit departments of competing jobbers—frequent exchange of ledger experience—to the end that the man who is running behind may be detected in time and the proper remedies applied. If only a mild dose is necessary, so much the better.

#### Credit Man BEST Friend

Perhaps some will take exception to the following statement, but I am fully convinced that the jobber or manufacturer that insists on prompt payment of accounts is the real BEST friend of the man operating on small capital.

I firmly believe that more failures have resulted from too much credit than from too little. If a man knows that his bill is due on a certain date and must be paid promptly, he will not allow his own accounts to run until they become uncollectible. It is a constant and compelling force urging him to keep his house in order—he realizes that he must make good and if he has the capacity he will make good.

Some one has said, and I believe it worthy of repetition: "No man has a right to go into business and not make money. It is a crime to go into business and lose money, because it is a curse on the rest of the community."

So, in eliminating this item of "bad debts, we should consider ourselves in the light of public benefactors. Not to cope with this evil and eliminate it, if possible, will weaken our commercial structure. If we sell goods to a poor credit risk, who is a competitor of one whose credit is unquestioned, we not only risk a loss on the poor account, but we are deliberately aiding him in undermining the credit basis of the good customer.

*Oftentimes the small dealer with little or nothing at stake enters into a campaign of reckless price-cutting, something that he is in no position to follow up, the only possible result being the complete demoralization of the trade in the locality, to the ultimate disadvantage of all concerned.*

(Continued on page 33)



# Brooklyn Opens Its Double-Header

*Real Estate Boom in the City of Homes Helps Sales of Cars and Trucks—Bright Season in View*



*The use of very broad aisles was one of the distinguishing and excellent features of the first part of the Brooklyn show in the Twenty-third Regiment Armory. Next week trucks will take the place of cars*

**B**ROOKLYN, N. Y., March 29—Brooklyn opened its double-header show to-night, and despite a belated winter wind there was a good crowd in the broad aisles of the 23d Regiment Armory. This week passenger cars hold sway and next week trucks will take their place. As usual, the show is well arranged and prettily decorated.

Brooklyn merchants have been looking forward to their show, but there are not many of them who think that the automobile-buying public needs much of a jolt. Fact is, the buying public has been buying pretty heavily of late and the principal concern of dealers right now is to get cars. Sales have been going along at a good clip for the past few weeks due to the warmer weather, and it is not anticipated that the snow of last week will have a very bad effect, or one that will last very long.

Brooklyn is primarily the city of homes, but this spring it is noticeably short of homes. Every dwelling place is occupied and the real estate people say they are experiencing such a boom in

building activities as they have not had in years.

The same holds good for Long Island. Not all Brooklyn dealers cover the whole of the island. The majority of them have only Kings and Nassau counties, and some have Queens County as well. And out on the island there is just as great a shortage of homes. In every community within commuting distance of New York builders have their hands full to keep pace with the demand for new houses and the renters are nearly ready to close up shop because there is nothing to rent.

## Need for More Garages

There is no gainsaying the fact that Brooklyn is enjoying an era of prosperity. A good proportion of its dwellers live in apartment houses, which means, of course, that those of them who own cars must patronize public garages. This in turn has brought a year of good business to the garages. At present it is practically impossible to find garage space anywhere in the city, and new

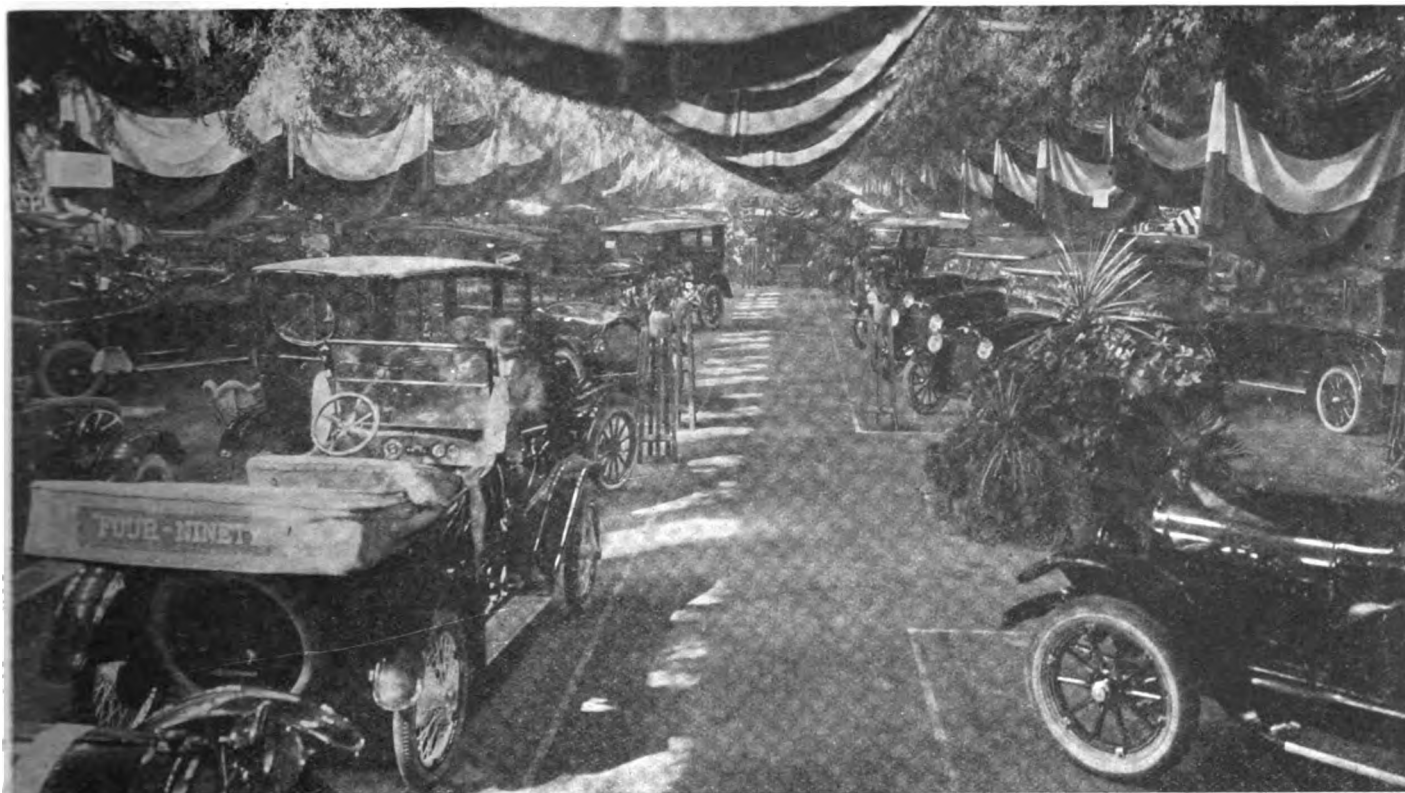
garages are springing up like mushrooms over night.

This is particularly the case in the Flatbush section, which is the aristocratic section of the city. The completion of the new subways has brought a great real estate boom to the Bay Ridge section too, where long rows of small detached houses are going up. Many of these are equipped with private garages. Many, however, are of the "attached" variety, and there are just as many car owners in these as there are in the detached houses, which means more garages are going to be necessary.

The homes in this particular section are occupied in large part by industrial workers—those who work in the shipyards and in the munitions and other plants that line the Narrows. They are a prosperous lot. Wages for labor are high and the number of cars in this section is increasing rapidly.

The call for cars of the several closed varieties apparently is on the increase. This is easy to account for, inasmuch as the majority of owners drive their own cars. They are in the great middle class.





*Just a glimpse of one of the aisles and the overhanging decorations at the Harrisburg automobile show*

For example, the Chevrolet factory branch, which in the past 9 months has disposed of 900 cars, states that fully 60 per cent of these have been sedans; the remainder are mostly open cars, with just a sprinkling of winter jobs and coupés.

#### How Registration Has Jumped

In the two years between 1916 and 1918 the registration of commercial vehicles in the counties of Kings, Queens and Nassau have practically doubled, which gives a pretty good indication of the possibilities for trucks in Brooklyn and nearby Long Island.

In 1916 there was a total of 6847 commercial vehicles registered in these three counties, as against 13,854 for 1918. The registration of passenger vehicles has shown a steady gain, though the jump has not been as noticeable as it has with trucks. In 1916 the registration of cars totaled 41,771; in 1918 this had increased to 56,645—a jump of 14,874.

One new car made its initial appearance at the show. This is the new Dodge Brothers four-door sedan. In appearance it is almost exactly like its predecessor, which has only two doors. The principal difference is that the side panels are permanently attached, whereas in the older model they are detachable. The chassis is unchanged. The price is \$1,870 delivered in Brooklyn, this including the war tax and the freight.

It is expected that the commercial vehicle show next week will be a record-breaker from the point of attendance and business. In view of the real estate boom, the influx of Manhattanites into the Bay Ridge section and the completion of the new subways, local merchants will have larger delivery problems on

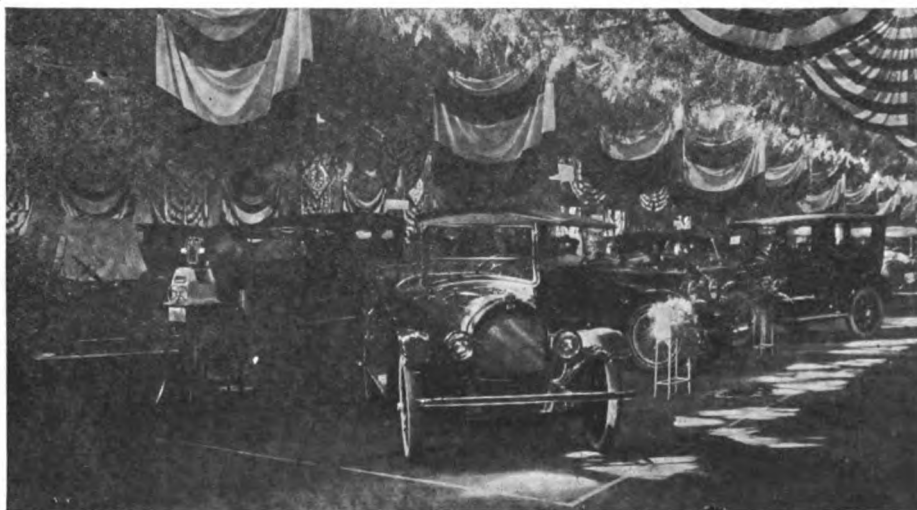
their hands than in the past, and this undoubtedly will stimulate sales.

#### Army to Sell Some Junk Cars

WASHINGTON, March 31—Requests for bids on motor trucks and passenger cars made by the Zone Supply and Port Storage Officer at Baltimore to the public last week have been withdrawn because they did not specifically state that the vehicles offered for sale were only of scrap value and not usable. New proposals asking for bids will be sent out by the War Department in the near future which will distinctly state that these passenger cars and trucks are beyond repair and only good for scrap purposes. The total number of vehicles offered for sale is less than 100.

#### Wilmington Organizes

WILMINGTON, DEL., April 1—To further the interests of the automobile trade in this city and to insure an automobile show in the future, the Wilmington Automobile Trade Association has been formed. Enoch Moore has been elected temporary president and H. R. Freck secretary. Moore has appointed the following members as a committee on nominations: W. A. McDonald, chairman; E. C. Ulrich, Edward Bixby, H. R. Loose and Nat Howell. H. R. Freck and Nat Howell have been appointed a committee to see that the dealers are well represented in the organization, and the following committee on by-laws has been formed: H. R. Loose, Herbert White, Henry Taylor, Herbert Smith, E. C. Ulrich and W. A. McDonald.



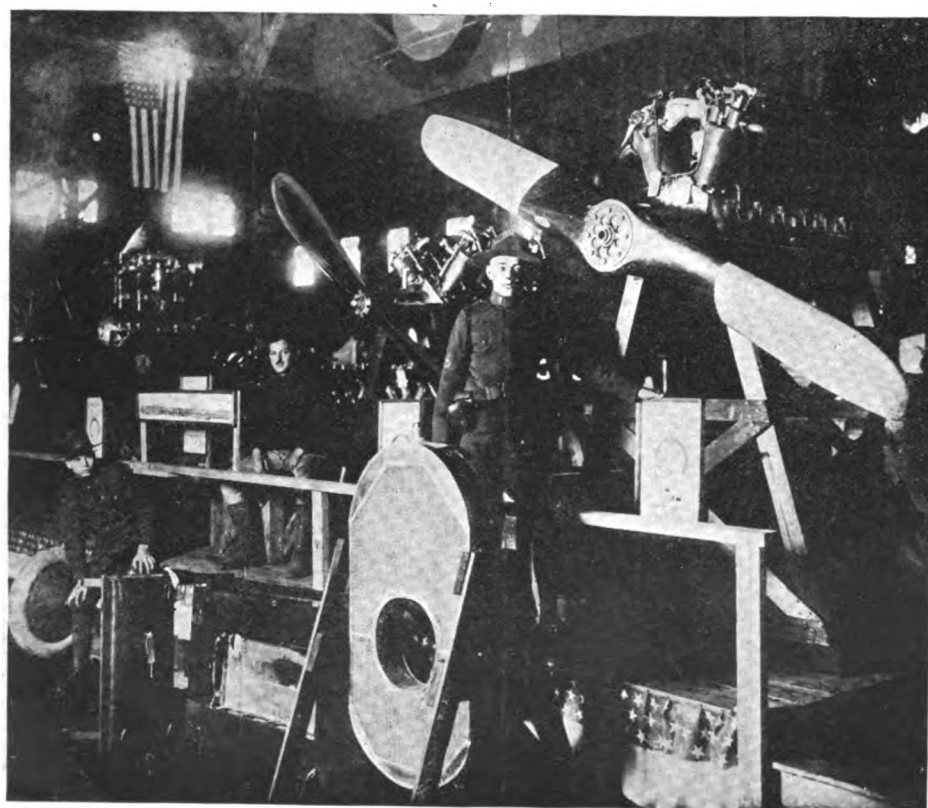
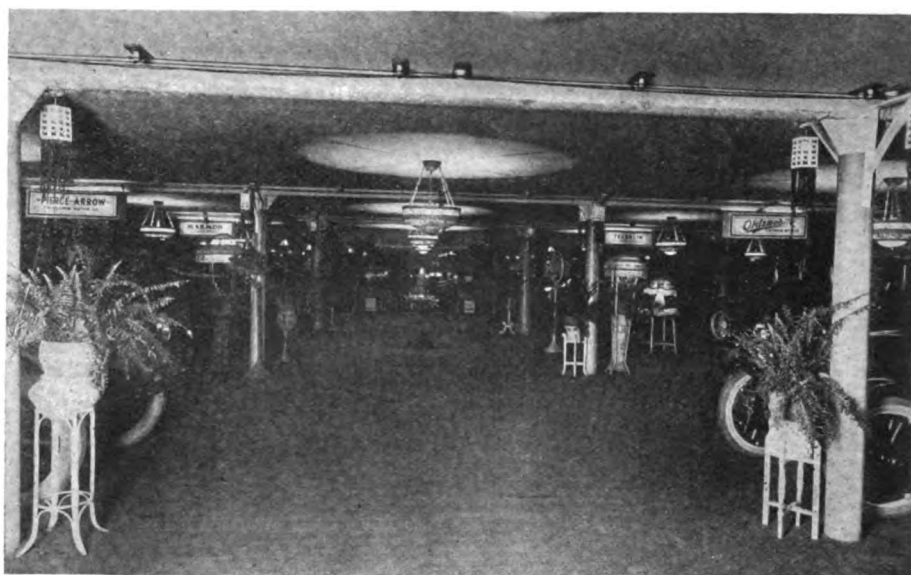
*Flags and then more flags helped make the Harrisburg show attractive*





## Two Shows That Were Automotive

***A**BOVE is a general view of the show put on in Grand Rapids by the Grand Rapids Automobile Business Association, and shows the arrangement of the passenger car section. At the right is another view of part of the passenger car section which will give some idea of the width of aisles*



***AND** this is a really automotive picture. It shows that part of the Little Rock, Ark., show which was devoted to aircraft. The engine in the foreground is a Liberty, and the exhibit contained about everything pertaining to planes except the planes themselves*



# Gold from the Fence Corners

*It's There—It Has Been There for Years—All You Need Is a Basket and the Disposition to Leave the Big Road for a Few Minutes*

BY RAY W. SHERMAN

"NOW that I've got that out of my system what I want to know is what you mean by all this stuff about showing initiative and getting ahead in the company and all that sort of stuff?" demanded George Roper.

He didn't say it the way it looks in type. He said it in that very informal way the Reilly salesman had of talking to the head of the house every time they had anything that had become too heavy to be retained longer on their chests.

Reilly had been telling young Roper about how he ought to try to be a better salesman, to get on in the world, and as a starter to get on in the Reilly organization. As a starter in that last named operation Reilly had suggested that Georgie display a windowful of initiative—do something original.

## Do Something Original

Wherefore Georgie had demanded more details on the subject.

"Get some more prospects! Sell something! Do something! I don't care what!" Reilly replied. "Do you expect me to figure out something for you and then have you call it original?"

"Well," Georgie began, "I can't for the life of me think of a thing to do. I've gone to work and sold up on Sennetts. We haven't got a car in stock and won't have for forty days. I can go right on taking orders if you say so, but if I do I'll spend the rest of the summer keeping my buyers sold while they wait for cars. There's nothing to sell. What's the use?"

"There's a nice fat lot of used cars out back," Reilly retorted, "and I know where you can get a lot more—if you want them."

"Yes," Georgie came back, "but we've got a used-car prospect list and we keep working it all the time. What can I do on that?"

## Intensive Work Needed

"Georgie," said Reilly, "do you know that one of the marks of the successful dealer—and salesman—in the near future is going to be the degree of intensiveness with which he cultivates the sales field?"

"How—"

"Do you know that there are great gobs of prospects in this town, eligible as buyers, and just waiting for someone to give them a little push?"

"No! Are there?"

"There surely are," Reilly replied. "Every city in the country, and every

hunk of farm land, are full of people who will buy cars if someone will only go out after them instead of waiting for them to come in. Thousands of dealers are doing the same thing you are doing. They're waiting for business to come in through the regular channels.

## The Old Way

"In your case you are expecting to get your start from the prospect list. You never give a thought to putting names on the prospect list. All you expect to do is take them off. In the case of the dealers, they are waiting for the names of prospects to come in through newspaper advertising, through owners, through shows and through the other usual channels.

"There's a man now!" Reilly pointed out the window to where Bill Hemp, the automobile man on the Callawassa News, was entering the salesroom across the street in a search for news, information, advertising, conversation or anything that would help his batting average in the "front office."

"Bill Hemp!"

"Certainly! Why not?" Reilly demanded. "And probably on the News are half a dozen more men who can be sold cars if someone shows them that buying a car is easier than they thought."

"What do you mean?"

"Just this," Reilly explained. "Bill wants a car. Everybody wants one. The reason he hasn't got one is that it would cost him five or six hundred dollars, the way he figures it, and that's a lot of money. Bill doesn't realize that he has that much money, and so he keeps right on wanting a car, and always will until somebody shows him how he can buy one."

## Sell Used Cars

"Now, here's the dope. Out there in the back of the barn we've got several cars that don't cost a million dollars to run and which we can sell for five or six hundred dollars and make a profit. Any one of them would be just what Bill wants—but he thinks he hasn't got six hundred dollars."

"Has he?" demanded Georgie.

"Well—" and Reilly drummed the desk with his fingers, "I happen to know that ever since the first Liberty loans Bill has been sticking from ten to twenty dollars a week into Liberty bonds. He never saved a cent before in his life. To-day he must have eight or ten hundred dollars in bonds—"

"Which he wouldn't sell on a bet!" interrupted Georgie.

"Correct," Reilly continued, "and which he needn't sell. But any banker, especially a banker who is approached right, will loan six hundred dollars on those bonds and Bill can keep right on paying his twenty a week and have his car paid for in no time. Meantime he'll have the car and we'll have the money."

"Huh!" grunted Georgie, and he uneasily watched the door across the street.

"And then," Reilly went on, "there are several other men down at the News who must be as well fixed as Bill is. They don't want to sell their bonds, they do want a car, and they can't conceive their having five or six hundred dollars. They're thoroughly sold on the car idea—and so are their wives—and they'll really be grateful to the man who will walk in, take a sheet of copy paper and show them in a couple of jabs of a pencil how they can buy a car."

## Prospects Many

Georgie again grunted "Huh!" and kept his eye on the door across the street.

"Then," Reilly continued, "there are many other folks around town who could buy cars if someone would only show them the way. There are lots of fellows with good salaries who can buy cars. There are lots of mechanics who can buy cars. Outside Callawassa are farmers who would buy cars if someone would only shake them a little and bulldoze them into it. They are by habit used to hanging onto their money. They want someone to take it away from them."

"This more intensive work is going to be a part of our methods from now on. We're going to work out a definite plan, even if we have to send our salesmen out to ring all the door bells in town."

## The Gold by the Wayside

"For too long we have all traveled down the Big Road. We've taken the easy way to profits. We're going to keep right on traveling the Big Road, but at the same time we're going to look into the fence corners and pick up some of the gold that's there. As for Bill Hemp—"

But just then Bill Hemp, at the wheel of a little used car, rolled out the driveway across the street, guided by a driving instructor.

Said Georgie: "Huh!"

"Yes," agreed Reilly, "Huh—two times Huh!"





W. S. ROBERTS

# THREE TRACTOR STORIES

- 1—*Why the man who is going to sell tractors should know them.*
- 2—*Why the man who is selling tractors should know them.*
- 3—*Why the man who has sold tractors should know them.*

**Q** These stories are from the years of experience of W. S. Roberts, the Case man in St. Louis. He knows tractors as you know baseball. He has lived tractors for years. And he is giving Motor World readers from the wealth of his knowledge. The interviews were secured by Clyde Jennings, whose stories of business facts are more readable and interesting than much fiction. Read all of these stories. The first one ran last week. The third one will appear next week.

## 2—Why the Man Who Is Selling Tractors Should Know Them

*The Major Reason Is That He May Be Able to Take Advantage of the Countless Leads That Will Develop in Day-to-Day Experience*

“**T**HE Case statisticians estimate there are more than 5,850,000 farmers in the United States waiting for tractors,” said W. S. Roberts, manager of the J. I. Case T. M. Co. in St. Louis, in continuing the discussion of why a dealer should know about tractors. His previous remarks—in Motor World last week—were confined to dealers who were getting ready to sell tractors. This time he was talking of the selling of these handy machines.

“These figures sound a bit staggering, but they point out exactly the reason why a dealer should know about tractors generally and especially the tractor he is selling.

“There are many rea-

*By Clyde Jennings*

sons why he should know about his own tractor or tractors, if his company, like the Case company, makes several tractors and they fit to different uses.

“Now, we advertise and guarantee that the Case 10-18 will do certain work at a certain expense if properly handled. Also we advertise different things for the Case 20-40.

“Now, how can a dealer place these two tractors if he does not know anything about them?

There is only one thing about it. He, or someone representing him, has got to know what this farmer needs and see that he gets that tractor. The dealer who sells tractors that do not fit is going broke, because he will never sell a customer but once, and, even with this almost 6,000,000 prospects in front of him, he cannot hope to get by with badly placed goods.

“But each of these nearly 6,000,000 men who are going to buy something more than 7,000,000 tractors, for a lot of them need more than one

### Golden Harvest

**T**HE tractor missionary work has been done. The question is no longer “SHALL I buy a tractor?” but “WHEN shall I buy a tractor?”

The dealer can answer the question “WHEN?” by saying, in advertising, letters and by other advertising that will reach the farmer, “This year is the time.”

Count the farmers in your neighborhood who can use tractors. Make a careful list of the prospects with the best ones at the top. Then cultivate that field intensively and, as a stimulant toward immediate purchase, irrigate the field and hand work it.

Your list, if you live in any average farming community, should convince you that the tractor field is certain to return a golden harvest.—W. S. ROBERTS.



machine believes that his case is individual and he will insist on answers to his own questions.

"Two farms, side by side, as nearly identical as it is possible for farms to be, present different problems because of the individuality of their owners.

"These two men do not farm alike. They may raise, generally speaking, the same crops but they have different ideas as to methods and they state their needs in a different way. The dealer who does not talk to them about their own problems, understandingly and intelligently, I mean, is not going to sell them.

"It is entirely possible to sell both of these men the same tractor, and it will be 100 per cent efficient from tractor standards in both cases because tractors will do more than one thing.

*"But the man who sells the tractor must convince these men."*

#### The Dealer Must Sell Make of Tractor

"These nearly 6,000,000 farmers we are talking about probably are sold on the general idea of a tractor. But they are not sold on the make of tractor. That is up to the dealer."

To make plainer his point, Roberts digressed a bit to trace something of the history of the tractor from a plain plow-pulling machine to a handy and almost complete farm implement that has everything but brains.

As a matter of fact, he said, the tractor was sold to many farmers years ago when they looked longingly at their idle steam engine when plowing was held up by a sick horse. Nowadays a farmer whose work is stopped because of a sick horse or a stubborn farm hand, and who sees on the neighbor farm the plowing going ahead with a tractor run by the farmer's daughter, is NOT asking "SHALL I buy a tractor?" "but *"WHEN can I buy a tractor?"*

"Now, the dealer meets No. 1 of this nearly 6,000,000 prospects. This man has been sold completely on the plowing, etc., but, as he sees it, his chief problem is hauling and silo filling. Also he insists that this tractor be able to turn in a corner of his barn lot where the circle diameter is not more than 25 ft. These are easy problems, but they require some knowledge of the tractor to answer them, and, if the dealer cannot come right out and talk of them, he has lost Prospect No. 1. *He will go where his questions can be answered.*

#### Advertising That Instructs

"The Case company is doing much advertising these days and so are other tractor makers. The object of this advertising is to interest the farmers and show them how a tractor can be used to advantage in their work.

"Naturally these advertisements cannot be a primer of tractor construction in each case. Likely they would be self-explanatory if the reader had all of them and would read them carefully. But that, of course, is out of the question. He reads one particular ad. It interests him, and the next time he goes into town he hunts up a tractor dealer to talk about that advertisement. Of

course, he does not say just that, but the advertisement has raised questions that he wants answered.

"The motor car has paved the way for tractor education. But right off the reel some one is going to ask the new tractor dealer: 'What difference is there in the use of gasoline and kerosene in a motor?' and *he wants his question answered.* The man who does not speak right out *has lost the advantage of having first chance at this prospect.* The chances are this prospect will say: 'Well, he doesn't know anything about it; I might as well order from that mail order catalog. That house has always made good on what I have bought.'

"That kerosene question is merely a starting point for other questions and the motor car has just primed this man to be on edge to ask about fuel strainers, carburetors, float valves, air washers and other things.

"Then, too, the motor car owner has had lubrication drummed at him from the day he bought his car, and he is entirely sold on the economy of plenty of oil and entirely sold on the uneconomy of the waste of good oil, for he realizes as well as any one else that oil costs money. He wants to use plenty, but not too much.

"So while he is considering the buying of this tractor or that, he will play a bit off-side by asking about the lubrication. He will want to know about the type of lubrication system, all about the pump, how often oil must be renewed, what kind of oil, the influence of the weather, about the crankshaft bearings, the connecting rod bearings, the piston pin bearings and differential gears, etc. *Now, this is not mere talk, but any tractor salesman who has delivered the goods will tell you the same story.*

#### Buying Horses and Tractors

"Did you ever see a man buy a horse? Well, there are a lot of things about that horse that the buyer must judge for himself, because he does not expect that any one will tell him the truth, and no one can judge of certain things in his way of judging.

"But the tractor is a different proposition. He is just as curious about this iron horse without brains as he is about the flesh and blood horse and he expects to go over it in just the same way. It is his way of doing business. The farmer knows by long training what fuel, oil, etc., that horse will need, and after a while he will know about the tractors, *but in the meantime he is going to get this information from the man who ought to know.*

"When these nearly 6,000,000 prospects come to repeat their tractor buying, the business will be different, for then the buyers will not ask so many or the same kind of questions that they ask now. *On these repeat orders they will feel of its legs, look at its teeth, test its wind, etc., of their own knowledge, and such questions as they ask will be very pointed.*

"On the first buy their questions are pointed enough, but they do not entirely understand all of the wires, bearings,

rods and pins they see. *But they will not come back to buy of the man who did not tell them the truth about every one of these things.*

"Now, the tractor dealer who sells only tractors is not getting the most out of life, and he must know his tractor to know what else goes with it. He should by all means sell the plows, discing tools, harrows and the belt tools, as well as all of the rest.

"He cannot know what to advise of these unless he knows his tractor. No catalog will answer all of the questions. For the man who is entirely on the job the sale of even a small tractor can well mean several thousand dollars' worth of business.

"It is an annual business. By that I mean it comes back year after year for new tools and for renewals of those that were well sold. *There is no end to this business until the farm wears out or farming goes out of style. And both of these contingencies appear rather remote.*

#### Keep Demonstrating Tractor

"But there is one other thing about the tractor business that is as important as the knowledge of the tractor. That is to have a tractor on which to display this knowledge.

"I do not believe that it is possible to sell tractors without a sample on the sales floor. I know that no man will do his merchandise justice who has not enough belief in it to buy a sample. He must have something to talk about and to show. *A catalog is a poor substitute.*

"A demonstration is the best sales agency for a tractor. Show the men of the community just how it works. Put it through all of its gaits. And the dealer who will sit in the saddle while doing this will make sales easy.

"*If he has a man in overalls, a machinist or a factory expert to run it, he has made things harder for himself because some, at least, of these farmers will think that if they buy the tractor they will have to hire a machinist on their farms.*

"But if this town merchant can get in that seat and make it cut ditches, pull stumps, plow and other things, he will say: 'If John Jones can do those things and not soil his collar or muss his hair, that thing will be an eight-horse team when I get a whip hand on it.'

#### NEXT WEEK

*Why the Man Who Has Sold Tractors Should Know Them.*

#### Number Plates for Scrap Metal

Collecting old automobile license plates and selling them as scrap metal is one of the latest Red Cross methods for earning money. This collection is being made throughout the country. Estimates by the Red Cross place the total cash value of all these old plates, as scrap metal, at \$750,000.

In Buffalo, in order that motorists may not be inconvenienced, a receptacle has been installed at the Secretary of State's office, so that applicants coming there for new licenses may deposit their old numbers on the same trip.



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

## Is It Legal to Sell Mortgaged Property?

Editor Motor World: In June, 1917, we sold a car to a young man and took a mortgage on the car and one-half of 12 acres of potatoes. Before his note came due he was called to the service. His father was considered very good pay and our bank advised us to take a note from his father, which we did, and returned the young man his note. After renewing the note two times we asked the father for the money from the potatoes as a payment on the car. He said he hadn't any. All we received was one payment of interest. In 1918 the father filed a petition in bankruptcy, our note being the only account he owed, with no assets. We called him up on the telephone and he told us we could have the son's car, and when we went after it he gave it up willingly. The car will sell for only about half what the note calls for, so we stand to lose about \$550 if we are not paid. The young man has received his discharge, but he will do nothing toward paying for the car, and, in fact, seems to think that he can replevin the car, thus beating us entirely.

Now, first, can he get the car back and keep it legally?

Secondly, have we any hold on either the father or the son for selling mortgaged property (potatoes) where the original note was returned? The son sold about \$300 of them before he left and the father sold the balance after the son had gone to the army. The potatoes that the son sold were disposed of before the original note was due.—Cheney's Garage, Washburn, Me.

Answer—Your question cannot be answered on this page. In order to answer your question properly, it is necessary to examine the notes, the mortgage, etc. Under the circumstances, the thing for you to do is to retain legal counsel. While we are always glad to give information on the law, we cannot advise as counsel or otherwise in any given case, particularly where we are not familiar with all the facts.

## Loaning Money to Second-Hand Car Owners

Editor Motor World: I wish to finance time payment contracts on new and used cars through the dealers, as one branch, and to loan money direct to owners of second-hand cars as another branch. With respect to the latter I thought best

to accept a bill of sale and issue a sale contract to the borrower. In any event, what are the best methods of protecting the lender against prior outstanding contracts, mortgages or liens?—Michael Sorensen, San Diego.

Answer—We regret to say that the questions you ask are not within the province of this department. We shall be glad to answer any specific question you ask, but we cannot undertake to tell you generally all the law covering this kind of a business, as we would have to devote an entire issue to answering your question. My suggestion is that you put yourself in the hands of a competent California counsel. Tell them what you want to do and let them tell you how you can legally do it.

## The Lien Law Again

Editor Motor World: (1) When does the lien on an automobile expire? We have been told that the lien is void after 90 days. We are holding a bill of nearly \$50 covering labor and parts which is now almost two years old. Would the lien law still hold good in this case?

(2) If a note is accepted as payment on a new car and payment is not met, can the car be reclaimed under the lien law?

(3) How should a note be made out so that the dealer has possession of the car until fully paid for without taking a mortgage on same?—Ed Schram, Addison, Ill.

Answer—The Illinois Garageman's Lien Law provides that an action to enforce a lien must be instituted within three months after the lien attaches. The lien law has nothing to do with cars sold conditionally or otherwise, but refers only to storage, repairs, etc.

## Must File Certificate to Validate Lien

Editor Motor World: I would like to know whether I can hold a car that is brought to my shop for repairs? The bill will be about \$40 and I already have a bill for \$38 against this same car. Can I hold the car for both bills? This old bill has been on the books for about six months.—Maze Auto Co., Auburn, Neb.

Answer—"Any person who makes, alters or repairs, or in any way enhances the value of any vehicle . . . at the request of or with the consent of the owner shall have a lien on such vehicle . . . while in his possession for a

reasonable or agreed charge for the work done or materials furnished; and shall have the right to retain said property until said charges are paid. If possession of the property is parted with, the lien may be retained if a certificate is filed in the office of the clerk of the county where the work was done or the material was furnished, or the property was kept, together with a verified statement of the items of work and a description of the article repaired . . . within 60 days after the last item was performed."

If you let the car go out of your possession and do not file a certificate within 60 days after the last item of work is performed you lose your lien. Of course, if the car is brought in your possession again for further repairs, it would be policy to hold it for both bills, but you must be careful to do everything that the law says you must do.

## Use Reasonable Care

Editor Motor World: I would like to know about garageman's responsibility under the Wisconsin laws in case a car left in our garage under the three following conditions was damaged by fire:

1. Car is left for repairs and no storage charged.
2. Car is left for storage to be paid by day, week or month.
3. Car is left for storage for which no charge is made.

We have signs put up reading, "Cars left here at owners' risk."

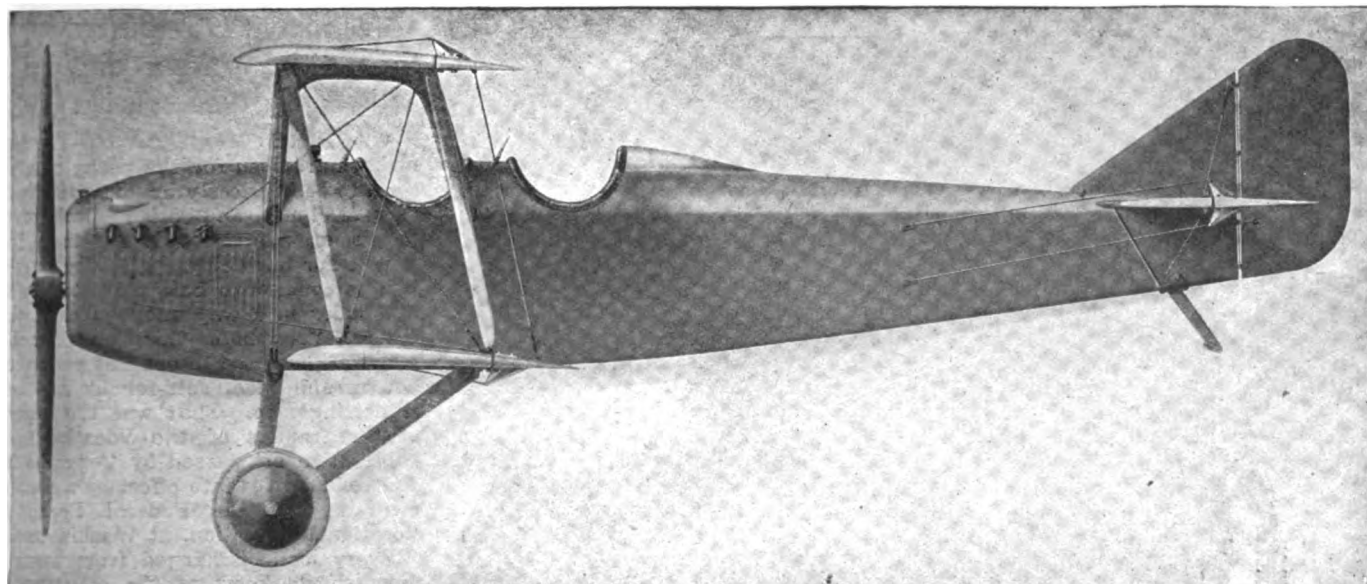
What is our responsibility for other accidents such, for instance, as fenders or body bent or scratched by shoving other cars against the one stored under the three above conditions?—O. F. Stelter Auto & Machine Co., Bloomer, Wis.

Answer—In the absence of a definite contract provision to the contrary you would be responsible in the first two cases you mention if you did not use the degree of care that a reasonable man could be expected to use to preserve the customer's property under the circumstances.

In the third case you mentioned you are only under a duty to use slight care to preserve the property as you are not benefiting directly or indirectly by having the car in your possession.

As to other accidents you are of course responsible if you or your employees cause the damage. If the damage was caused by other persons then they are responsible.





# Packard Airplanes in Commercial Production

**Demand for Planes Already Exists Among Wealthy Sportsmen—  
Packard Dealer Organization Used for Distribution—Some Dealers  
Have Made Sales and Entered Orders**

**I**MMEDIATELY after the armistice was signed the Packard Motor Car Co., Detroit, began to consider the matter of turning its war experiences in the airplane field into commercial channels. The factory, having been tooled up and laid out for the production of Liberty aircraft engines and having already commenced the manufacture of the La Pere type of plane, found itself in an advantageous position to swing over to commercial airplane production should a demand be found for this product.

Based on the assumption that in this country there are hundreds of wealthy sportsmen to whom flying would appeal, the Packard company has already designed and brought out its first line of airplanes. These will be made at first in limited quantities and marketed through the Packard dealer organization. Some of the dealers have already placed their orders for planes and are now reporting sales to users.

In designing the planes and engines it has been the aim of the engineering department of the Packard company to incorporate the best features of the Packard and Liberty aircraft engines developed before and during the war. It has been found possible to eliminate some of the objectionable features of the previous types, these largely having to do with installation difficulties. The changes have resulted in a material saving of weight in the completed plane, as well as giving greater simplicity in design and more reliability in performance.

Some of the important alterations may

be mentioned. For instance, the carbureter is now located on the bottom of the crankcase, with the necessary intake passages carried through the case. This

## SPECIFICATIONS OF THE PACKARD AIRPLANE

### Powerplant

Packard eight-cylinder, 160 hp. engine; 160 hp. at 1525 r.p.m.

Weight, complete with propeller hub, self-starter, battery and engine water, 585 lb.  
Fuel consumption, 0.50 to 0.54 lb. per horsepower-hour at sea level.

### Wing and Control Surface Areas

	Sq. Ft.
Main planes, total	387
Allerons, total	48
Vertical fin	5
Rudder	11
Tail plane	30
Elevator, total	22

### Weight

	Lb.
Machine empty	1,520
Gasoline	210
Oil	30
Water	52
Tools and extras	25
Pilot	165
Passenger	165
Normal flying weight	2,167
Weight, pounds per hp.	13.5
Wing loading per sq. ft.	5.6
Permissible extra luggage	100

### Performance

High speed near sea level, m.p.h.	102
High speed at 5000 ft., m.p.h.	100.5
High speed at 10,000 ft., m.p.h.	98
High speed at 15,000 ft., m.p.h.	90.5
Climb to 5000 ft., min.	7.5
Climb to 10,000 ft., min.	18.1
Climb to 15,000 ft., min.	34.5
Absolute ceiling, ft.	19,500
Fuel range wide open near sea level, hr.	2.5
Fuel range wide open at 5000 ft., hr.	3
Fuel range wide open at 10,000 ft., hr.	3.5
Fuel range wide open at 15,000 ft., hr.	4

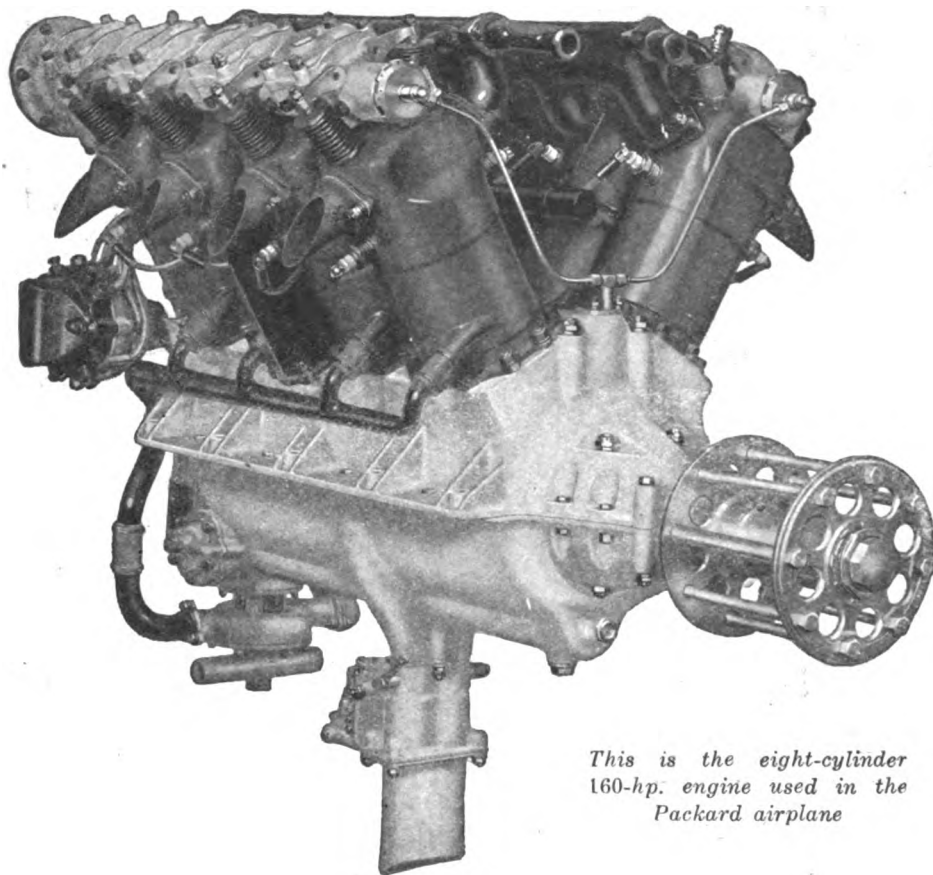
has resulted in a very low carbureter, making possible the use of simple gravity feed for all types of planes. At the same time the intake passages are kept properly warmed and the weight required for water-jacketing the intake is eliminated. Furthermore, removing the carbureter from the V leaves the space between cylinders entirely clear, giving greater accessibility for the spark plugs and providing for unusual vision.

The plane, being utilized for sporting purposes largely or for cross-country fast passenger transportation, has been designed for safety and speed, and at the same time care has been given to have reasonable economy and comparatively low landing speed. The plane is designed to make use of the very best materials obtainable, and has a factor of safety of over seven. This is exceptionally high in plane construction.

A clothing compartment is provided, also a suitcase department to carry two suitcases, which will be found very convenient in cross-country traveling. The plane illustrated herewith has been designed around, and to be a complete unit with, the 1-A-744 engine, which is an eight-cylinder type of 160 hp. at 1525 r.p.m.

The Packard company is not in production on this plane at the present time, but it will probably go ahead with its manufacture, and in this event, before placing the plane actually on the market, exhaustive sand tests and other tests will be made under official supervision. Before any deliveries are made to customers





*This is the eight-cylinder  
160-hp. engine used in the  
Packard airplane*

a sand test will be made on each plane and a copy of the sand test report will be furnished to the purchaser, so that he may be fully informed as to the strength of the various units of his machine.

It is estimated that the plane will fly about 100 m.p.h. with full load on account of its comparatively light weight and clean-cut design. The landing speeds have not yet been determined, but it is claimed that they will be quite low and probably about the same as the usual primary training machine. To further facilitate landing in unknown and rough fields, the landing gear is located well forward to guard against nosing over and a rugged tail skid is provided to take care of unusual strains and shocks that the plane may be subjected to.

One of the features of the plane is the attention given to the comfort of the passengers. For instance, the engine is entirely housed in, making it impossible for oil or gases to blow back in the passengers' faces, and the passengers are guarded against drafts by bulkheads on each side. This is a feature which will be appreciated by those who have been out in disagreeable weather.

The rear cockpit is arranged especially for the pilot, but the necessary dual controls are provided, so it can be flown from the front seat, thus making it possible to use this machine for instruction work when desired. The controls in the front compartment can be lifted out quickly, making it impossible for the passenger to interfere with the control of the plane, should this be desired. The gasoline tank is located between the passenger and the

engine. This location at approximately the center of balance of the plane takes care of the variations in the weight of the fuel without interfering with the balance of the machine, so that the same flying characteristics hold for a partially empty tank as well as for a full tank.

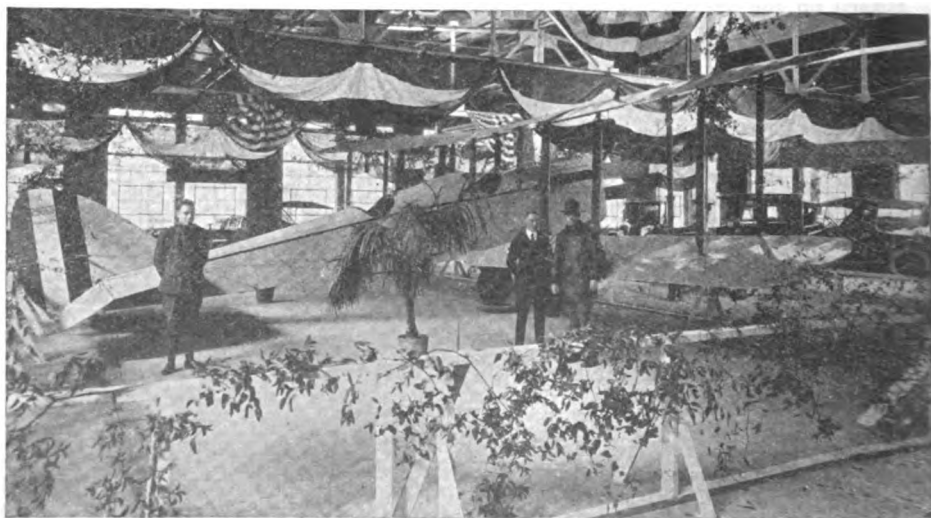
The controls and fittings are standard and a strong method of trussing is used to properly support the wing surfaces. No price has been set on the plane as yet, but it is understood that it will sell somewhere around \$15,000 at the present time.

## Government Offers New Opportunities to Men Disabled by War Service

WASHINGTON, March 28—The gates of hope are open for the young men who seem to be hopelessly handicapped by the loss of limbs and other disabilities—marks of the great battle they have fought for humanity. It is the purpose of this country to help them to use the remainder in a way more efficient than before. Veterans of this war will not be social cripples and dependent pensioners, but rehabilitated, self-reliant and self-respecting men. That was the purpose of the framers of the Vocational Rehabilitation act passed by Congress last June and carried into effect by a Government agency, the Federal Board for Vocational Education, at Washington.

Every man discharged from army or navy should know of the opportunities offered him. Friends should point out to him that if he is entitled to compensation from the Bureau of War Risk Insurance he is entitled also to the services of the Federal Board for Vocational Education. The board will assist him in finding suitable employment, and if he is hindered by his physical condition from carrying on successfully his former occupation, the board will give him such a course of training—agricultural, industrial, commercial or professional—as is suited to his needs and preferences.

While he is in training his family continues to receive the usual allotment, his tuition and other expenses incident to his training are paid, and he is given at least \$65 per month for subsistence. If his last month's pay was more than that amount, he may receive an amount equal to his last month's pay. When he has finished his training course a job is ready and waiting for him, probably, due to his newly acquired skill, at higher wages than he ever before earned. His compensation from the War Risk Insurance Bureau is in no way affected by what he may or may not earn.



*At the Dayton automobile show held recently there was exhibited a De Havilland D-4 bombing plane. As can readily be imagined, it attracted a great deal of attention*



A Department of

## BETTER MECHANICS

No. 99

## Valve Operations on the Chevrolet 490

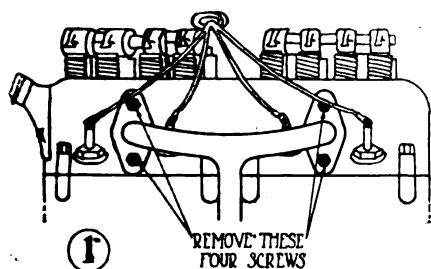


Fig. 1—Remove the four cap screws to take off the intake manifold

## I—Removing the Cylinder Head

THE following methods are recommended by the Chevrolet factory and follow closely the service manual issued to Chevrolet dealers.

1—Drain off the water by opening the radiator drain cock:

2—Disconnect the upper radiator-hose connection by taking out the two cap screws that hold the hose connection to the cylinder.

3—Remove the eight bolts which hold the cylinder head to the cylinder block.

4—Disconnect the intake manifold by removing the four cap screws that hold the flanges to the cylinder head.

5—Disconnect the exhaust manifold by taking out the two bolts in the flange on the other side of the cylinder head.

6—Lift off the head. As the valves, rocker arms and bearings are attached to the head they will come off with it.

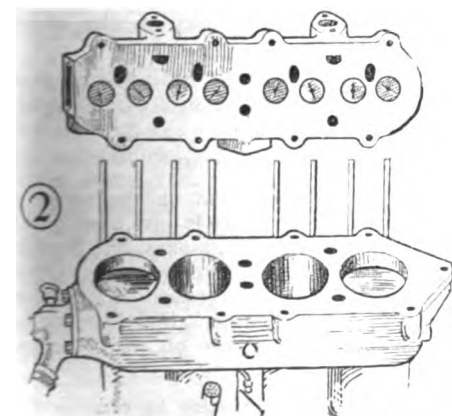


Fig. 2—The head is lifted straight up, the push rods remaining in place

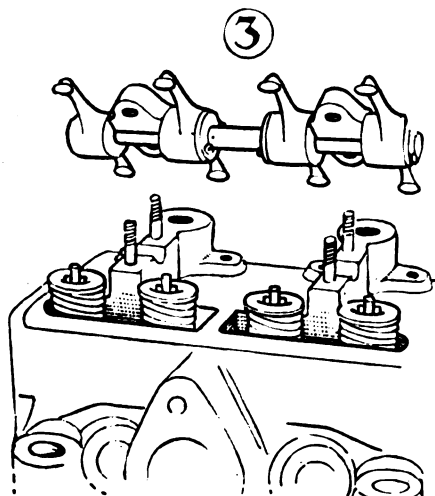


Fig. 3—The rocker arms and shaft lifted clear

while the push rods will remain in their original position.

## II—Valve Rocker Arm and Shaft

1—Remove the hexagon-head cap

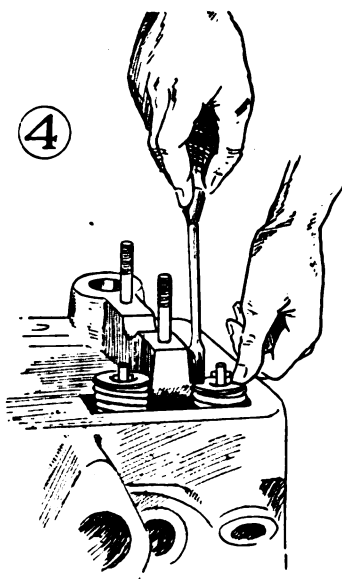


Fig. 4—The valve-spring washers are pushed down with a screwdriver and the thumb

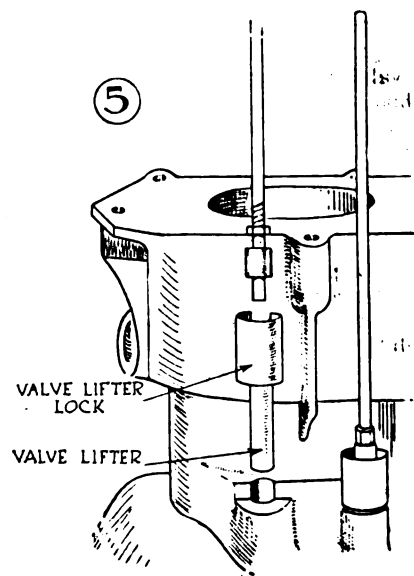


Fig. 5—This shows the lock on the valve push rod

screws that hold the valve rocker caps and lift the assembly straight up.

2—Mark the caps with a center punch or chisel so that they will be replaced in exactly the same position as they were

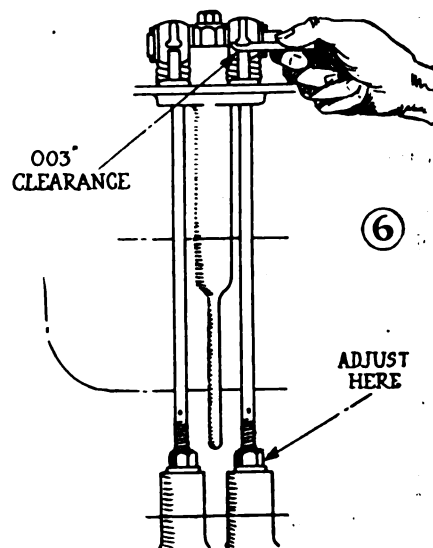


Fig. 6—The push rods are adjusted so that there is a clearance of .003 in.



### III—Valves

1—Remove the small wire that holds the valve-spring cap in place.

2—Press down on the valve-spring cap with the fingers and a screwdriver until the pin can be pulled out.

3—Place a light coil spring about 1½ in. long around the valve stem.

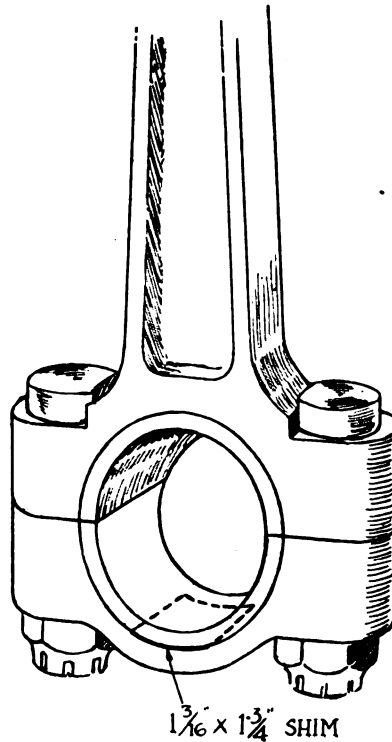
4—Put a light coat of valve-grinding compound on the beveled edge of the valve head and also on the seat in the cylinder head. Then insert the valve in its original position.

5—Turn the valve back and forth through a quarter turn, using enough pressure on the brace or screwdriver to overcome the pressure of the small spring. The valve should not be turned around in a complete circle, as this is likely to make grooves in the seats.

6—Continue the grinding operation till a perfect white line appears on both the valve and the seat. There must be no black places on the line, but the line does not have to exceed 1/32 in. in width, in fact, over 1/16 in. is too much.

7—To polish the valve stems, hold the valve head between wooden blocks clamped in the jaws of a vise.

8—Wrap a narrow strip of emery cloth around the valve stem and pull the ends back and forth, allowing the emery cloth to slide up and down at the same time



Packard connecting-rod bearings are fitted by inserting a shim between the bearing and the cap

so that the whole length of the stem will be polished.

9—Remove all traces of emery with gasoline or kerosene after grinding and polishing.

### IV—Replacing the Cylinder Head

1—Remove the valve lifters from the cylinder block.

2—Remove the valve-lifter locks from the rods.

3—Drop the push rods through the valve-lifter holes to the camshaft.

4—Replace the cylinder-head gasket, or, if it is in bad condition, put a new one on.

5—Put the head in place and replace the eight bolts, tightening them evenly all the way round.

6—Put each one of the push rods in place, sliding them through the holes in the cylinder head.

7—Replace the valve lifters and locks in their proper position against the camshaft.

8—Adjust each push rod to the proper clearance, which is .005 in., or the thickness of an ordinary visiting card.

9—To make the adjustment, turn the engine till the particular push rod reaches its lowest point of travel, then loosen the locknut at the bottom and turn the rod till the proper distance is obtained, then lock the nut again.

## Fitting the Connecting-Rod Bearings on the Packard 1-35 Twin Six

THE connecting-rod bearings on the Packard Twin Six are to be fitted so that there is a clearance of from .0015 to .002 in. between the bearing and the crank pin. As there are no shims between the cap and the rod, it is necessary to use a different method than that used in ordinary practice. If the bearing is fitted in the ordinary way, it will be a rubbing fit when finished and there will be no clearance.

1—Make a shim 1 3/16 x 1 3/4 x .002 in.

2—Place this between the bearing cap and the bearing, the length of the shim being placed across the bearing.

3—Rub a light coat of Prussian blue on the crank pin.

4—Put the cap in place on the connecting rod.

5—Put on the nuts and tighten them up till the rod can just be moved on the shaft.

6—Work the rod back and forth and give it a couple of swings all the way around.

7—Remove the nuts.

8—Take off the cap.

Be careful not to dislodge the shim. It must not be moved from its position till the bearing is all fitted.

9—Scrape the bearings on the high spots, which will be the places on the bearing that have taken a mark of the blue from the shaft.

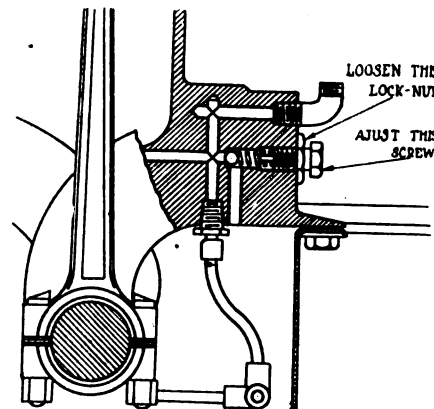
10—Repeat this operation till a proper surface and tight fit have been attained.

11—The shim is now removed and this will allow the rod to rock freely on the crank pin.

If the bearing has been carefully fitted there will be from .0015 to .002 in. clearance between the bearing and the crank pin, this clearance representing the thickness of the shim.

### Adjusting the Lubrication on the Oakland Model 34 B

LUBRICATION of the Oakland Model 34 B is effected by a gear pump, which consists of two gears contained in a case, one of them being driven from the camshaft by means of helical gears.



This screw regulates the spring tension on the ball check on the Oakland 34 B

These two gears mesh with each other and the turning forces the oil through the tube. To adjust the amount of oil flowing through the tube—

1—Start the engine.

2—Adjust the spark and throttle till the engine runs at about the same speed that it would run if the car were traveling at the rate of 20 m.p.h.

3—Loosen the locknut on the oil-adjusting screw.

4—Adjust the screw until the oil gage on the instrument board registers between 10 and 15 lb.

5—Tighten the locknut.

6—If the adjustment on the screw is such that the pressure is just over 10 lb., and the engine still smokes, the trouble may be that the oil level is being carried too high. This will cause smoking in spite of any adjustment that is made to the screw, because the oil will overflow the troughs.

7—It is good practice to remove the oil pan about every month, clean out all the old oil with kerosene and wash the pump strainer off with gasoline.



# SHOOTING TROUBLES

## Charging Batteries From a Farm Light Plant

Editor Motor World: I have a 32-volt Lalley farm light plant and want to charge automobile batteries from it. How many 20- or 40-watt lamps must I use in the resistance to start a 6-volt battery, and how many must I finish up the charge on? Is it possible to charge more than one battery at a time? How must the current be put through the cells?—Sutherland Garage, Willisburg, Ky.

Answer—The number of lamps that you must use in the lamp-bank resistance depends not on the voltage of the battery, but on its capacity in ampere hours. Batteries are generally labeled with the proper initial charging and the proper finishing rate, and if this infor-

bank. As these give  $1\frac{1}{4}$  amperes each, the amperage would be about  $6\frac{1}{4}$ . If this is too much, as evidenced by excessive gassing, one of the lamps can be taken off and replaced with a 20-watt lamp. As the lamps vary in resistance, no exact number can be given, but trial is the only way to find out. The finishing charge may be given with half the number of lamps, or two 40-watt and one 20-watt lamp.

It is quite possible to charge more than one battery at a time by connecting the batteries up in series, the positive of one to the negative of the next, the positive of one end cell being connected to the positive of the generator and the negative of the other end to the negative of the generator. It should be possible to charge from two to three batteries at once in this way. It is best to charge

batteries of an equal ampere-hour capacity, however, as otherwise the smaller ones would get too much current at once and the larger ones would charge too slowly.—EDITOR.

## Reboring a Ford Valve Seat and Improving the Timing

Editor Motor World: 1. Is there enough stock in the Ford cylinder block to rebore the valve seats to  $1\frac{1}{2}$  in. opening?

2. Can a Ford camshaft be made different in any way to give the car more speed?—B. O. Torrance, Erie, Pa.

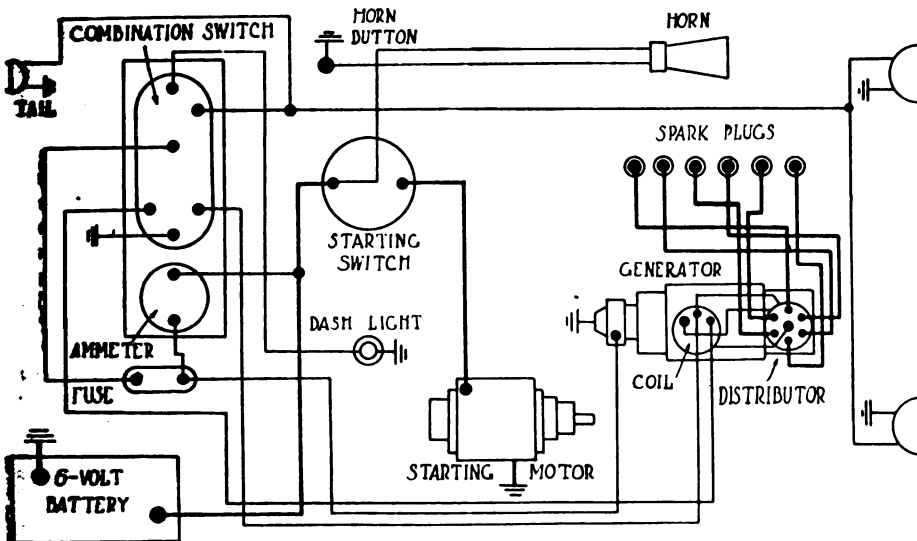
Answer—1. When you begin to bore out the cylinder of an automobile engine you assume certain risks. The manufacturer makes the walls no thicker than he thinks is necessary to insure sound metal all around. It is quite possible that the Ford block will stand reboring the seats to  $1\frac{1}{2}$  in. clear diameter, but one cannot be sure. Even if there were ample metal, the possibility of sand holes and blow holes looms large. If you should happen to bore into one of these your block would be worth junk and no more.

2. It is almost impossible to alter a camshaft that has once been made. We have no doubt that the speed of the Ford engine could be increased by giving the valves a greater life and opening them more abruptly. This, however, might call for stronger or stiffer springs. The only way to get an increased lift and more abrupt opening would be to make an entirely new camshaft.—EDITOR.

## Oakland and Overland Wiring Diagrams

Editor Motor World: Please show a wiring diagram of the Oakland Model 32 which has Remy starter and ignition.

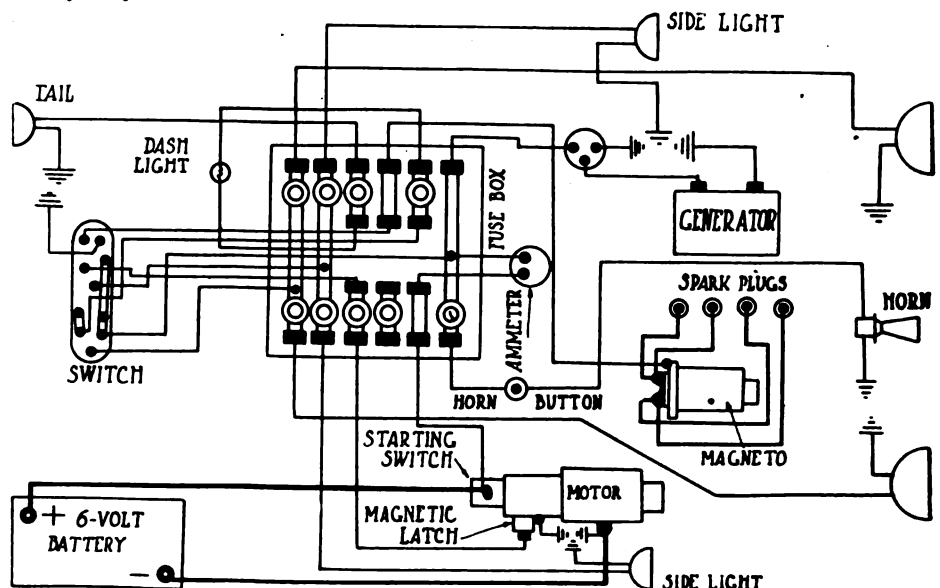
Also a diagram for the Overland Model 81 with Splitdorf magneto and Autolite starter.—P. E. Nordan, General Manager, George Rich Garage, Whiteville, N. C.



Oakland Model 32 wiring diagram

mation is available, it is best to follow the directions. However, in the absence of any such data, a rough rule of one-tenth as many amperes as the ampere-hour capacity of the battery to start and one-twentieth as many amperes as the ampere-hour capacity of the battery to finish up. These rates should give sufficient current to just make the battery gas. If it gasses too much, cut down the current, and if it does not gas at all the current can safely be increased. In other words, the charging rate should be just enough to make the battery gas gently, and the rule is simply a rough guide to obtain this result.

On a 32-volt circuit a 20-watt lamp will allow about .6 amperes to pass and a 40-watt lamp will allow about  $1\frac{1}{4}$  amperes to pass. This will vary slightly with the make of the lamps, their age and the exact voltage of the generator. Therefore, in charging a 6-volt, 60-ampere-hour battery, the charge may be started with five 40-watt lamps on the



Overland Model 81 wiring diagram



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2071—PICK-UP FOR LOST ARTICLES

A magnet for picking lost tools, nuts, etc., from inaccessible places is made from an old vibrator horn magnet, to which is attached a piece of duplex cable of suitable length. The wires are insulated with tape at the point where the joints are made and the ends of the cable are attached to a storage battery.—Charles Davey, Robinson Auto Co., Tyn-dall, S. D.

## No. 2072—PRESSING FORD SPINDLE BUSHINGS IN PLACE

Ford spindle bushings are pushed into place in the spindle by inserting a  $\frac{1}{2}$ -in. bolt 4 in. long through the spindle and bushing, a nut being placed over a washer on one end, and a washer under the head. By screwing the nut onto the bolt the bushing is pulled into place.—H. J. Engel, New Braunfels, Tex.

## No. 2073—REMOVING VALVE CAPS FROM WHITE CARS

The valve caps are removed from the engine of the White car by using a plug wrench made from 1 in. hexagon bar stock drilled at one end for a  $\frac{1}{2}$ -in. steel handle. This wrench is part of the White kit, but instead of using the bar handle a ratchet wrench and a  $\frac{3}{8}$ -in. socket make the work easier and quicker.—Sergeant L. M. Converse, West Point, N. Y.

## No. 2074—ENLARGING A PISTON SKIRT

A piston skirt can be enlarged to prevent piston slap by peining the inside of the piston with a small peen hammer. The connecting rod and wrist pin are removed and the piston laid on a perfectly flat steel or iron plate. The peining is done by light blows, every blow hitting directly over the steel plate.—H. J. Engel, New Braunfels, Tex.

## No. 2075—CLEANING A VALVE SEAT

The seat of a poppet valve is cleaned by catching the stem of the valve in the chuck of a drill press, running the press at a rather slow speed and holding an emery block against the seat. The block can be one of the ordinary abrasive stones, or can be a block of wood with a piece of emery cloth fastened to it. The block must be held steady and at the correct angle to produce the right kind of a seat.—Floyd D. Bliss, Aurora, Ill.

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

## No. 2076—GASOLINE TANK DRAINING OUTFIT

The problem of draining the gasoline tank on a car requiring repairs to its fuel system is neatly solved by the use of a large flat tank mounted on a rack provided with casters. The tank is simply pushed under the car and the gasoline line disconnected so that the fuel may flow out through the funnel in the filler opening. When the fuel is to be replaced the tank is placed on a rack which empties into the car tank.—Packard Motor Car Co. of Boston.

## No. 2077—PORTABLE TOOL CARRYING CASE

This is a wooden case made in the shape of a small suitcase, and compartments are provided for accommodating various kinds and sizes of tools. The large tools go in the large compartment at the left under the drawers, and pliers, tape, etc., can be carried in the upper right compartment, which has a strip in front to prevent the things from falling out. The drawers are partitioned off to keep nuts, bolts and small parts in. The wooden strip which holds the solid wrenches in their cavities is removed by slipping it from under the two cleats.—Ernest Poole, Philadelphia.

## No. 2078—ADJUSTABLE MAGNETO COUPLING PULLER

A puller which can be used to pull the magneto coupling from the shaft is made from a piece of iron or steel 4 in. long and  $\frac{1}{4}$  in. thick. A  $\frac{7}{32}$  in. hole is bored in the center and threaded with a  $\frac{1}{4}$  in. tap to take a set screw;  $\frac{5}{16}$  in. slots are cut in each end by boring a succession of holes and filing out the connecting spaces. Cap screws put through these slots into the threaded holes of the coupling will hold the bar fast to the coupling and setting up on the set screw will force the shaft out.—A. H. Davis, T. B. Shamm Service Station, Iola, Kan.

## No. 2079—CUTTING CASTELLATIONS IN A NUT

Castellations are cut in a plain nut by holding the nut in a vise and putting three saw blades in a hack saw frame. Three are sufficient to make a slot wide enough for ordinary size cotter pins. Larger slots can be made by using four saws.—J. W. Lyons, Miller Auto Exchange, Point Marion, Pa.

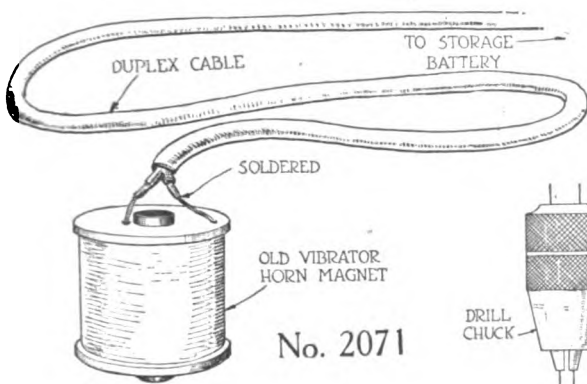
## Duplex Truck Boosts Production

LANSING, March 28—The Duplex Truck Co. has increased its production 25 per cent in the last three months, having completed its return from war to peace work without difficulty. The company is conducting an extensive sales campaign and now has seventy active distributing agencies.

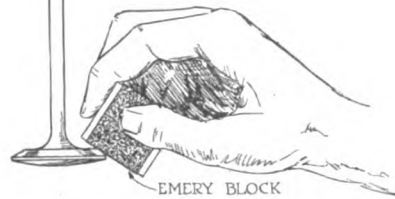
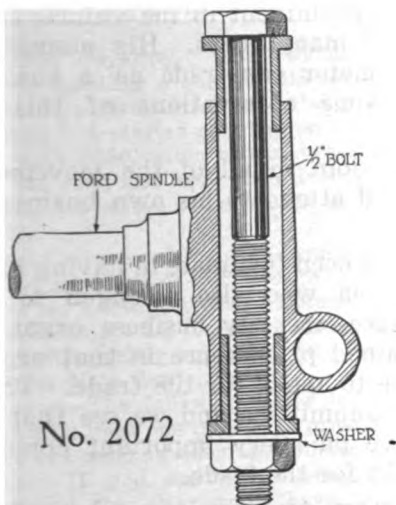
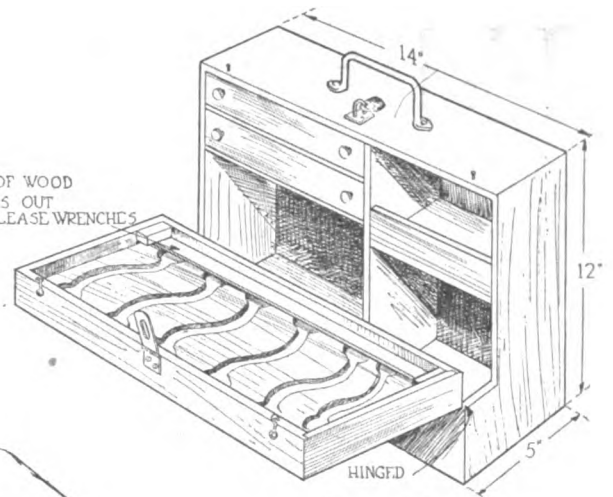
## Would Not Be Without It

Editor Motor World: We are regular subscribers to your interesting publication and would not be without it.—Van Cleave Auto Exchange, Marion, Ind.

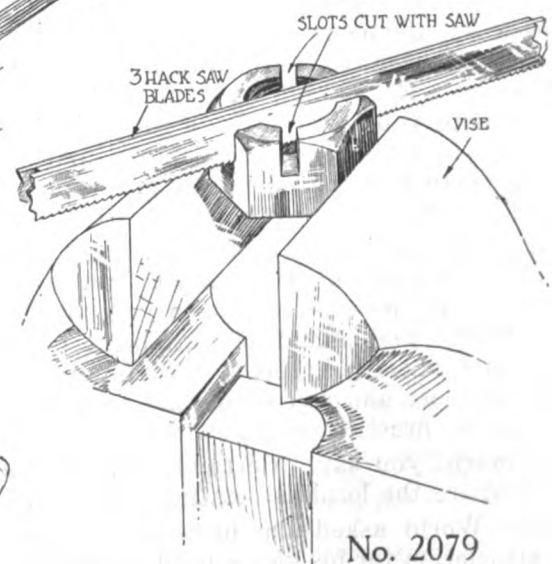
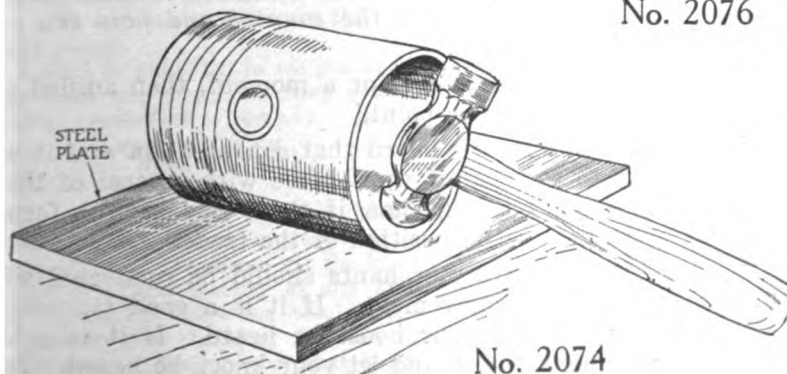
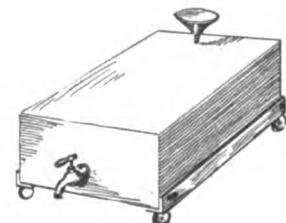
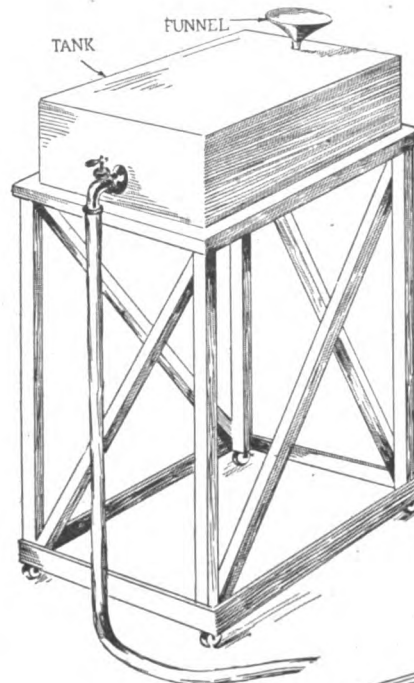
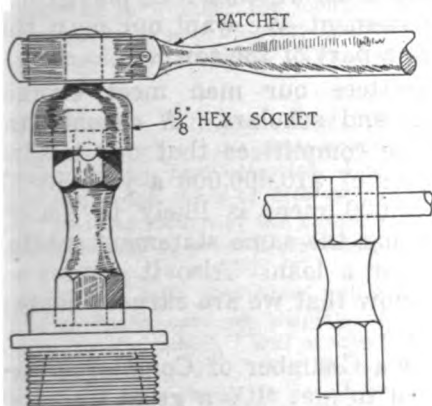
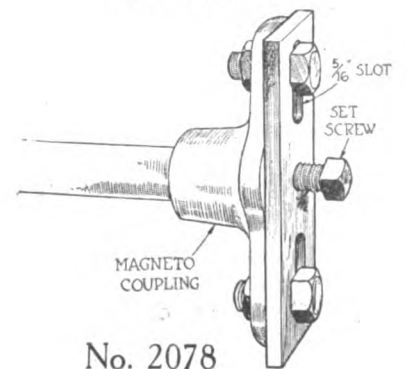




STRIP OF WOOD  
SLIPS OUT  
TO RELEASE WRENCHES



No. 2075





# Editorial Observation

## What About Your Association?

**N**OW that President Vesper and the N. A. D. A. have shown the value of co-operation of motor car merchants with other lines of business in a national way, what is your local association going to do about it?

Did you ever stop to count up your individual gain and business prospects from the fight the N. A. D. A. made for you in opposing taxes?

Perhaps not, but you will have to admit that much of the present business prospect is due to the "going to the front" on the part of the N. A. D. A.

"It was an emergency," you doubtless will say. Yes, that's so. But there are emergencies every day in business. Every day's work has a bearing on some future day. Your prospects are better or worse, just as you have made them, through actions of decisions. Reputation is the best asset in business to-day. Now the question becomes: What is the business reputation—in your community—of the motor car dealer business, taken as a whole?

We are glad to say that it is mighty good in some communities and we regret to say that it is not so good in others. Why?

What makes a business reputation? Fairness and public spirit.

Fairness means paying debts promptly, to be fair to the other man, your dealings with labor and your customers.

Public spirit means co-operation with your fellow citizens and business men for the promotion of the community. Everything you do to help the community helps you and the trade you represent. You should be in politics, not as a party man but as a business man striving for good government. Line up with a party if the party wants that.

You should be in the uplift movement as long as it is practical and will really uplift. You are making a living from the community, so you should help it enjoy itself. You should help eradicate poverty and misery and whenever there is a community call, you should be there and you should aid in making all of this work as practical as possible.

Too much! you say. Certainly for one man and that is where the local association comes in.

Motor World asked the president of one strong local association for his views on this question. He has given more time to association work than the average

dealer. He has been prominent in the vehicle trade in his home town for many years. His association work pre-dates the motor car trade as a business factor. Here are some observations of this organizer:

"No one man can join in all of the movements in any city to-day and attend to his own business—but *the trade can*.

"Our association has been fortunate in having in its membership many men who also belonged to the Chamber of Commerce, the city business organization. They have gained prominence in that organization and are there to speak for the trade. These men serve on many committees and we see that we have a representative on every important committee and that he speaks for the trade.

"For other committees, we name a member of the association to represent us, whether it be playgrounds or an anti-crime movement. We want our man there to show that we are a part of the town.

"On these committees our men meet bankers, other business men and scholars. A casual statement in one of these committees that our business represents a turnover of \$10,000,000 a year in this town, or employs 3,000 men, is likely to make a greater impression than the same statement made in formal application for a loan. Also it gives to us the opportunity to show that we are earnest business men, not sportsmen.

"The other day at a Chamber of Commerce meeting, a man remarked to me: 'It's a great game you fellows are in.'

"'No,' I replied. 'It's not a game, *but the fastest growing business in the country and now it's only beginning*.'

"He looked at me for a moment, then smiled and said: 'I get your point.'

"A dozen men heard that conversation and it was easy to see that it went home with several of them, more so, I think, than if there had been a formal call to state the position of the trade.

"Automotive merchants should be connected with every public movement. If it is a good movement, boost and let your boost be heard. If it is a bad movement, knock and let your knock be heard. This means the best sort of publicity and the kind the trade most needs now."



# LETTERS *from* READERS

## Inviting Prospects to the Show

Editor Motor World: We are going to have a show and would like a good letter of invitation to send to prospects inviting them to the show to see what we have. I have recently taken the agency for the Paige, and have not pushed it very hard on account of shortage of cars, but want to push that much harder now, and I believe a good letter will be a good starter.

Another question. What would you think of building a garage this spring? Or would you wait for cheaper labor and materials? I started my shop on July 1, 1917, with \$250, after fifteen years for some one else, and have made from that about \$5,500 above all expenses to Jan. 1, 1919.

Some time soon I want to send you a copy of my records for you to peruse and let me know just where I stand.

If you can get me the above letter, and soon, I will greatly appreciate it.—Percy B. Walls, New Castle, Pa.

Answer—The following letter is suggested as a good one to send to prospects if you are sending them complimentary tickets. If you are not sending the tickets out the letter would have to be changed a little. You can use your own judgment as to whether the mention of the war tax to be paid on complimentary tickets should be included. The letter follows:

*Dear Sir: Will you accept the enclosed ticket to the Automobile show with my best regards? You will find much there of interest to you, and the return of the automobile from war to peace is strikingly set forth in the exhibits.*

*Will you take particular notice of the Paige cars on display at space No. ..., which I will occupy? You know, of course, that during the war I was unable to get these cars as the factory was helping Uncle Sam, but now they are coming through in good shape and I am very anxious to show you their good points.*

*I shall be delighted to see you at the show any day or evening you find it convenient to come.*

*Yours very truly,  
PERCY B. WALLS.*

Your second question is more difficult to answer. This depends a great deal on local conditions. If you can get the labor in your particular locality at any kind of a reasonable figure we would urge that you do your building as soon as possible because the business that is going to be done by the dealers and repairmen in the next year is going to be very great and even if you have to spend

*THIS page is for the use of MOTOR WORLD readers. Letters on subjects of interest to dealers, garagemen, repairmen and jobbers are always welcome.—EDITOR.*

a little more money in getting your plant into operation, it will pay you in the end. Of course, if the figures for labor and material are entirely out of sight, it would be best to wait a month or so, but waiting is dangerous, as the other fellow may come along and get the business—EDITOR.

## Tail Lights First

Editor Motor World: I thought you might be interested in my article, "Tail Lights for All Vehicles." I enclose copy of February *Truck News* in which it appears.—W. Carl Parker, Reo Motor Car Co.

### *Tail Lights for All Vehicles*

BY W. CARL PARKER

Does it ever occur to the driver of a horse and buggy who shouts out at the oncoming motorists, "Dim your lights, gol darn you!" how many times the motorist driving up on him from the rear has harbored equally as vicious thoughts against him for not carrying a tail light?

Right now the question of dimming devices holds the stage for motor vehicle legislation and notwithstanding the many inventions and the several attempts to legislate, the problem is nearly as unsolved now as it was years ago.

Last year the MOTOR WORLD carried an article dealing with the stagnation of the dimming lens market, which told how lenses were backing up on the accessory dealers because the dimming laws and ordinances were so changeable that neither the motorist nor the merchant could keep pace with them. And the fact that no "100 per cent" dimming device has been discovered, the laws have necessarily been fickle in groping about for a solution.

Recently Governor Sleeper of Michigan appointed a commission of engineers, of whom H. T. Thomas, the Reo chief engineer, is a member, to investigate the lighting problem.

Looking at this problem from one angle it occurs that there is much to be gained by starting with the rear end of the vehicle—all vehicles—and working forward.

However, let's analyze. What is the

function of the headlight? How can they function legally and give the protection which the law aims to give and be dimmed at the same time?

Answer: The function of the headlight is to illuminate a distance in advance of the car safely commensurate with the maximum legalized speed.

Illumination was never required by law for the protection of the motorist. No, legislation was never intended for him—but against him. But the headlight was required both by and of the motorist to sufficiently illuminate the road so that he would not drive into vehicles either oncoming or going in the same direction.

No argument is likely to be precipitated by the statement that there are not 1 per cent as many head-on collisions among automobiles, in proportion to the number existing, as there are among railroad trains; and two railroad trains are running with one mind, the dispatcher's, while two automobiles are running with two minds, the drivers'.

Most motorists will tell that from their standpoint bright lights are safer than the dimmers. If it is the horse-drawn vehicle that the lighting legislation is attempting to protect, why not require by law every vehicle—self-propelled or horse-drawn—to carry a tail light with a red glass, or better yet, since red has been adopted by motor vehicles, green glass to distinguish the horse-drawn vehicle, so that either class of drivers can gauge themselves accordingly?

Note the above situation:

How many times have you, Mr. Motorist, and you, too, Mr. Horseman, been caught in the same trap—two cars coming toward each other—wagon in between—headlights safe enough for each of the motorists but just bright enough to blind the wagon out of the vision of both? Had the wagon been equipped with a colored lens lamp no headlight would be so bright that you could not see it.

It does seem that horse-drivers should use a tail-light without the pressure of law, but we still have to station policemen around a burning building to keep men, for their own protection, from entering, and if people won't protect themselves a law has to be framed that will, and here is a way the truck driver can set a good example:

When pulling a trailer at night put a tail-light on it. When hauling ladders, pipe or long timber in the daytime hang a red flag on the hindmost projection, at night a tail-light. It's the lesson we are trying to teach the drivers of horse-drawn vehicles.

If the same money spent for advertising so-called dimming-lenses had been used for propaganda to teach owners of



horse-drawn vehicles to buy and use tail-lights, more of them could be sold and at a longer price and better margin of profit and with highly more satisfactory results to general traffic.

### Weekly Sales Letters

Editor Motor World: It is frequently the case that dealers will take on the agency for a line of automobiles, tractors or implements, and for a while work them hard, but as their initial enthusiasm becomes matter of fact they often relax their energies.

With the idea in mind of keeping our dealers constantly imbued with a feverish energy, we have arranged to send them a weekly sales letter.

The first letter in the series you will find attached, and, if you wish, we will gladly place your name on our mailing list, and if you find them of sufficient general interest to be of value to you, you are at full liberty to make use of them as a whole or in part.

After you have received three or four of our letters, you will be able to determine the line of thought that we are following; therefore, while we have material on hand for a dozen or fifteen letters, would like very much to bear us in mind, and if you can suggest a topic that will help the work along, tickle us to death by mailing it to the attention of the writer.—Northwest Auto Co., A. H. Frink, Tractor Department, Portland, Ore.

### DEALERS SELLING HELPS PREFACE

Once each week hereafter we are going to send you bulletins on selling tractors which we hope will help you. These sales talks are plans successfully adopted by other dealers, and we can only hope that they may be as profitable to you as they have been to others.

The greatest known selling factor is personal acquaintance, and success will come to you in the same measure as this is developed. Never be in such a hurry while in the country that you will not have a moment to pass the time of day with ranchers you may conveniently meet along the road or at work in the field. And if they are walking your way, don't fail to offer them a lift. Introduce yourself and make a note of their name and any circumstance connected with your meeting that will be of use to you in renewing acquaintance when you meet again.

Your next best aid will be through the systematic circulation of good letters accompanied by illustrated literature, and you can get a good live mailing list for this purpose from the county records which show the name of every man in your territory owning a farm suitable for tractor operation.

Your best results will come through following a definite program which should start by selling your prospect the tractor as an institution, therefore our first letter in this series will give a few reasons how tractors pay 100 per cent dividends on the investment.

Very truly yours,  
NORTHWEST AUTO CO.,  
Per A. H. Frink,  
Tractor Department.

### HOW TRACTORS PAY FOR THEMSELVES EVERY YEAR

#### Selling Helps No. 1

BY INCOME DERIVED FROM CROPS GROWN ON LAND HERETOFORE PRODUCING ONLY HORSE FEED.

It takes five acres of your farm to produce sufficient feed to maintain each horse.

BY INCREASED CROP YIELD OBTAINABLE BY TIMELY AND MORE INTENSIVE CULTIVATION.

You can plow deeper and cultivate more thoroughly with a tractor, even when the ground is hard.

BY REDUCTION IN LABOR COSTS AND AID IN RETAINING HELP.

Men like to work on a farm with modern implements and less men will accomplish greater results.

BY EARNINGS DERIVED THROUGH RENTAL OF YOUR TRACTOR FOR DOING FIELD AND BELT WORK FOR OTHERS.

Julius Christenson of Hillsboro earned more than \$700 this way during his spare time this fall.

BEAR IN MIND that the most efficient tractor at the lowest price, combined with minimum operating cost, plus accessibility, safety and comfort, is the machine that will produce the best results.

This description well fits—

### THE LA CROSSE HAPPY FARMER TRACTOR.

NORTHWEST AUTO Co.,  
Per A. H. Frink, Tractor Department.

### The New War Tax

Editor Motor World: We are writing to ask you to give us some information regarding the raise in the Government war tax to the new rate.

Can the wholesale dealer collect the 5 per cent tax on cars that had been sold to us before Feb. 25, billed from the factory Feb. 17, arrived in Fort Dodge Feb. 23, invoiced to us by them Feb. 21, even though we did not unload them from the car or pay the draft at the bank, which was also dated Feb. 21, until Feb. 28, 1919?—Bell Motor Co., L. C. Bell.

Answer—The wholesale dealer cannot collect a 5 per cent tax from you under the heading of "war tax" unless a 5 per cent tax has been passed along to him by the factory. Neither you nor the wholesaler has anything to say about the amount of the tax. It is collected by the Government, at the factory, and the amount of tax that is collected at the factory depends on the date when the factory sells the car to the distributor. Whatever the tax is in that transaction is passed along to you, and you are expected to pass it along to your retail customers.

However, the wholesaler can add a certain amount to the price of the cars he sells you and call it a handling charge or anything else, and you can add a certain lump sum to your cars when you pass them on to your customers and call it anything; but neither you, nor the wholesaler, nor the factory must add, under the heading of war tax, an amount which is greater than the war tax that was paid on the merchandise.

Our suggestion to dealers and distributors is that the price be marked up to a safe figure, and that the car be sold with the understanding that the price is this amount, including war tax. Another way out is to say: "We are adding a certain amount for handling charges and war tax." If you specify that your increase includes something other than war tax, you can add any amount you want to, because the Government is not concerned with how much profit you make or the price for which to sell your goods.

### Second-Hand Car Cost Record

Editor Motor World: I am enclosing herewith card used by a Briscoe dealer, T. D. Stevenson, Ottawa, Kan. He wanted a way to keep track of profits on second-hand cars and worked up this card. Looked to me like a good idea and believed that you might be interested in it. Card is self explanatory and while it may be old, was new to me and thought it might be to you.—V. E. Malenfeldt, district representative Serlis Motor Co., Kansas City, Mo.

Briscoe 1915		1-29-19	
Car No.	Sold to	Motor No.	
John Jones	Ottawa, Mo.		
Cash of			
Terms	Taken in at \$100.00	Cash value	75.00
Trade-in	Taken in at \$200.00	Cash value	200.00
Total received for car			375.00
Cost			250.00
Interest from 1-19-19 to 1-29-19			2.00
Insurance			50.00
Repairs, itemized on other side			1.20
Gasoline and oil, itemized on other side			1.14
Cost of demonstrating, etc., itemized on other side			1.00
Total cost			255.84
Profit on car			119.16

Date	Parts	
1/28	2 hr	1.20
Total carried to other side		1.20
Gasoline and Oil		
5 gal gas		1.14
Total Gasoline and Oil carried to other side		1.14
Time Demonstrating		
1 hr 40 min		1.00
Remarks		1.00



# Automotive Equipment

## VICTORY SIREN

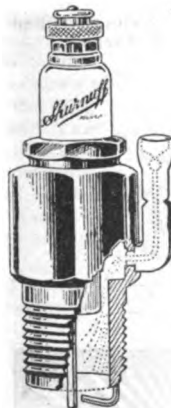
This is an exhaust-operated siren for passenger cars or trucks. It has a threaded fitting at the end which screws into a hole which is bored and tapped in the exhaust manifold, and the operation of the siren is by means of a cord that goes through the dash and is attached to any convenient point under the steering wheel. The tone of the siren is shrill and far-reaching or low and vibrating as desired. Price \$2.50.—Inter-State Tool & Mfg. Co., 3419 Rutger Street, St. Louis, Mo.



Victory Siren

## SHURNUFF SELF-CLEANING SPARK PLUG

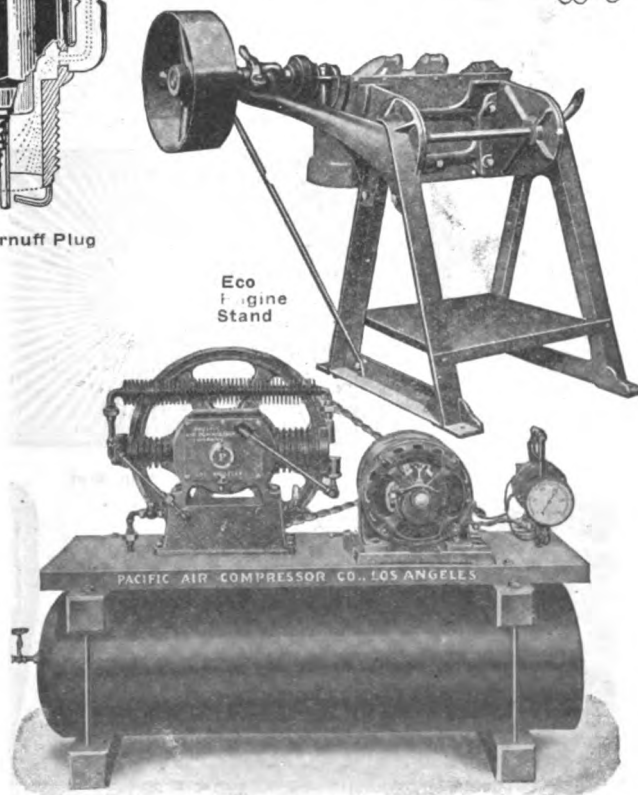
This is a spark plug with an auxiliary air opening which is closed by a ball check valve on the compression stroke, but open on the intake stroke. This allows fresh air to enter with each charge, cooling the electrodes and supplying more air to the charge. Price \$1.25.—Shurnuff Mfg. Co., 3147 Locust Street, St. Louis.



Shurnuff Plug

## PACIFIC AIR COMPRESSOR OUTFIT

This is a compressor outfit consisting of a two-stage automatic air compressor,  $\frac{1}{4}$  hp. electric motor, automatic electric controller, pressure gage, valves, filtering trap, safety valve, intake silencer and belt. There are two models, one with a capacity of 4 cu. ft. per min. for ordinary garage service and the other with a capacity of 10 cu. ft. per min. for larger garages and for spraying engines, paint, etc. The compressor is two stage, having opposed high and low pressure cylinders. Price \$265 for the smaller model and \$365 for the larger.—Pacific Air Compressor Co., 917 South Grand Avenue, Los Angeles, Cal.



Pacific Air Compressor Outfit

## PEERLESS REPAINTING OUTFIT

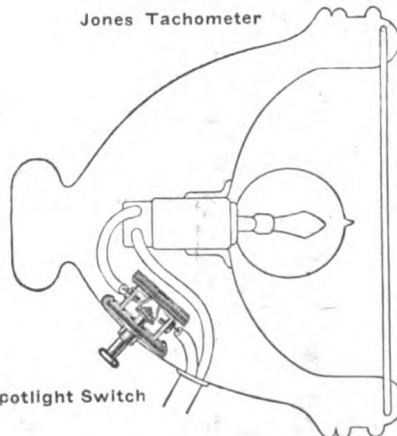
This is a repainting outfit containing sufficient product to paint each part of the car. The outfit contains under coats, finishing varnish, leather top dressing, cushion dressing, lamp enamel, cylinder enamel, brushes, sand paper and steel wool. The price of the outfit is \$6, and is sufficient to repaint a Ford, Dodge, Maxwell, or 5-passenger Overland or cars of similar size.—Columbus Varnish Co., Columbus, Ohio.

## JONES AUTOMOBILE TACHOMETER

This is an instrument which shows how fast the engine is running and it indicates the r.p.m. continuously. It may be used for aircraft, automobiles and tractors. It operates from the front axle and the design of the instrument is such that this speed is shown in r.p.m. of the engine. The operation is by means of centrifugal force. The scale is uniform, the device is light, is not affected by temperature changes and the mechanism is simple. The dial is black with white indications and reads from 500 to 2500 r.p.m. or 1000 to 5000 r.p.m. The instrument is of flush mount type and may be set in the dash.—Jones-Motrola, Inc., 29-33 West Thirty-fifth Street, New York City.



Jones Tachometer



C-H Spotlight Switch

## C-H SPOTLIGHT SWITCH

This is a push-and-pull switch for spotlights. It is mounted within the shell of the spotlight. It has large wiping contact surfaces to prevent excessive contact resistance and the contactor floats on the operating shaft so that side strain on the button will not cause the lights to flicker. The insulating parts are made of fibre, the frame of stamped steel, the contacts of brass and the contactor of phosphor bronze. To install, a hole is drilled for the switch and two for the rivets or set screws.—Cutler-Hammer Mfg. Co., Milwaukee.

## ECO FORD ENGINE STAND AND POWER ATTACHMENT

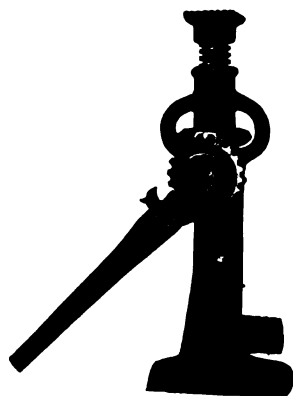
This is a Ford engine stand and is bolted to or set on the floor and the engine is fastened to the swinging member which can be turned in any position and then locked. The height is 30 in., table is 11 x 17 in. and size of shelf 16 x 16 in. Shipping weight 125 lb. Price \$25.

The power attachment is fastened onto the engine stand and the two members form a complete burning-in stand or running-in stand. The shaft is operated at a speed of 225 r.p.m. and the power attachment does not interfere with the regular use of the stand. Price \$42.50 with plain pulley or \$46.50 with tight and loose pulleys, the price including the engine stand also.—Western Mfg. Co., Oskaloosa, Iowa.



**NO. 4 RELIABLE JACK**

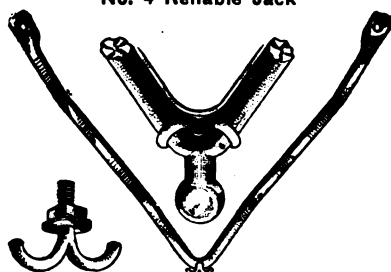
This is a heavy duty jack for trucks, tractors, etc., and all work requiring a call jack with great lifting power and small strain on the operator. A crank on the side of the gear allows speedy adjustment. Foot extension and screw shaft are one piece of steel casting  $1\frac{1}{2}$  in. in diameter. The weight is 25 lb. and the top will lift 10 tons, the foot 3 tons. The height lowered is  $17\frac{1}{2}$  in. and the height raised is 26 in. Price \$10.—Elite Mfg. Co., Ashland, Ohio.



No. 4 Reliable Jack

**PERFECTION RADIUS ROD SUPPORT FOR FORDS**

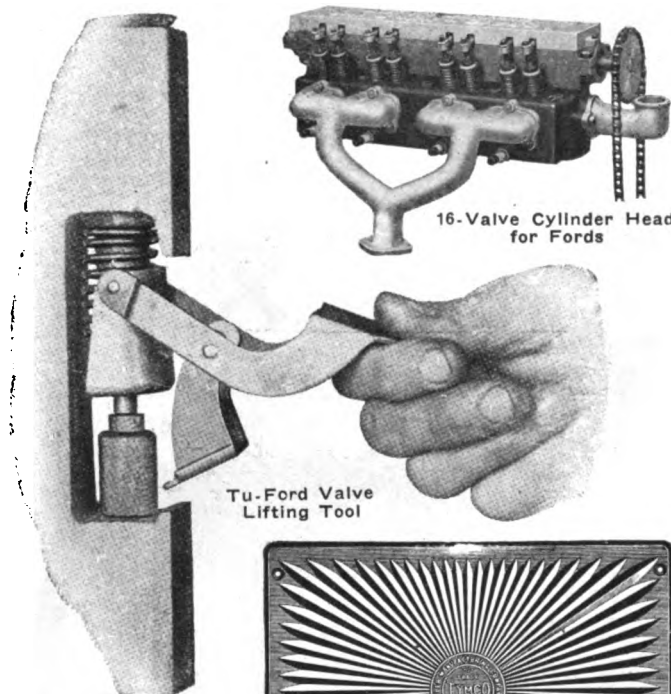
This is a radius rod support for Fords, and is made of steel angle  $1 \times \frac{1}{4}$  in. The ends are flattened and holes drilled to go under the bolts on the axle. The rear end is attached by slipping the double hook bolts over the standard Ford radius rods and tightening up the nut underneath. This grips the radius rod firmly at the ball socket. Price 75 cents.—Dow Wire & Iron Works, Louisville, Ky.



Perfection Radius-Rod Support

**CRAIG-HUNT 16-VALVE PUGOY TYPE RACING HEAD FOR FORDS**

This is a cylinder head for Ford cars, 16 valves being incorporated in the head. This head fits on the Ford engine in place of the regular head and without any alterations in the mechanical part of the engine. The valves are of overhead type, and are operated from a camshaft which is driven by a chain from a sprocket on the crankshaft. There are four valves for each cylinder, two intake and two exhaust, each of these being  $1\frac{1}{4}$  in. in diameter. The head is equipped for two sets of plugs, each of which enter the combustion chamber below and between the valves on either side of the head. The intake manifold is flanged for either  $1\frac{1}{4}$  or  $1\frac{1}{2}$  in. carbureters. The head is amply water-jacketed, and each valve is entirely surrounded by water. Price, with complete equipment, \$1.50.—Craig-Hunt, Inc., 910 North Illinois Street, Indianapolis.

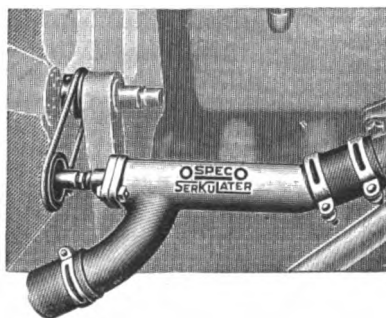


16-Valve Cylinder Head for Fords

Tu-Ford Valve Lifting Tool

**OSPECO CENTRIFUGAL PUMP FOR FORDS**

This is a centrifugal water pump for Fords, and the whole device is inserted in place of the regular pipe that goes between the cylinder block and the lower end of the radiator. The shaft extends through the end of the device, and a pulley is driven by another pulley from the fan on which an auxiliary pulley is mounted. The belt connecting these two pulleys is a coil spring. A by-path is provided to assure circulation when the engine is not running. This can be installed in a short time without machine work. Price \$5.—Michigan Auto Products Co., Detroit.



Ospeco Pump for Fords



General Cord Tire

**GENERAL CORD TIRE**

This cord tire is of two-cure construction, expanded on a specially constructed air bag. Every cord is expanded equally to the fraction of an inch and the tire is cured while the cords are thus stretched. Made in both ribbed and non-skid tread, sizes from  $32 \times 3\frac{1}{2}$  up to  $27 \times 5$ . Prices range from \$42.80 to \$87.40.—General Tire & Rubber Co., Akron, Ohio.

**TYMCO STEP MAT**

This is a combined rubber and metal step mat for the running board of a car. The rubber surface is vulcanized and bound to the metal plate in such a way that it is impossible for it to get loose at the edges. The plates are either aluminum or steel, and the surface of the rubber is in the form of a sunburst, so that the non-skid feature will be effective in any direction. The step mat is attached to the running board with screws or small bolts.—Tyler Mfg. Co., 64 Pearl Street, Boston.

**TU-FORD VALVE LIFTING TOOL FOR FORDS**

This is a sheet metal device in the form of a toggle joint which lifts the valve springs and then automatically locks them in this raised position so that the pins underneath the springs can be removed with the fingers and the valves taken out for grinding. The spring stays in this position as long as the valve is out and the valve can be easily slipped back in place, and the pins inserted. If desired, the valve can be ground into its seat without removing the spring or the tool. The operation can be accomplished with one hand, and the leverage is such that no effort is required to lift the spring or push the handle to the locked position. Price 75 cents.—Tu-Ford Valve Tool Co., 210 Boutell Place, Bay City, Mich.

**FRENCH MAID BODY POLISH**

This is a liquid body polish which combines the operations of cleaning, renewing and refinishing. It is claimed to contain no acid or grease, and to set perfectly hard and dry so that dust will not adhere to the surface. Put up in pints and quarts. Price \$1.00 per pint can, \$1.50 per quart can.—Despol Chemical Co., Palo Alto, Cal.



Tymco Step Mat

**KELKOTTER**

This is a cotter pin of a peculiar shape in which the upper part of the pin is open and the lower part closed. When the closed end is placed in the hole and the pin driven in with a hammer, the lower ends automatically spread when the pin is driven up to the head. Made in all diameters and lengths.—American Cotter Pin Co., Pittsburgh, Pa.



Kelketter



# The RETAIL NEWS

## EAST

**Frey & Boasberg**, 1705 Surf Avenue, Coney Island, New York, have opened a retail tire and accessory store.

**The Automotive Equipment Co.** has opened an accessory store at 84 Franklin Street, Worcester, Mass.

**Warrington Auto Construction Co.**, 82 Allen Avenue, Pittsburgh, has been appointed Armleder truck distributor.

**The Colton, Johnson, Wester Motor Co.** has been formed in Hartford to handle the Dort. A new sales and service building is being erected at the corner of Washington and Park Streets.

**Fred J. Wood**, manager of the City Auto Repair Co., Hartford, Conn., and Wilbur St. Cyr, service manager of the same concern, have organized the Hartford Repair Co. A new brick service building is being erected at 91 Ann Street and will provide space for 75 cars.

**Albert Lind**, formerly sales manager of the Hartford branch of Willys-Overland, Inc., has organized the Hartford Motor Car Exchange and will deal exclusively in used cars.

**The Foss-Hughes Co.**, Philadelphia, distributor of Pierce-Arrow trucks, has opened a sales and service station at 922-924 Washington Avenue, Scranton, Pa. The new branch will serve as a distributing center for Pierce-Arrow trucks in Lackawanna, Luzerne, Wyoming and Wayne counties. **Frederick P. Barnitz** is the Scranton manager.

**The Fader Motor Co.**, of 219 French Street, Wilmington, Del., has taken the agency for the Ford truck, the territory being Wilmington and the upper part of New Castle county.

**Charles A. Saville** has purchased the Van Buren Street Garage, at Seventh and Van Buren Streets, Wilmington, Del., from Clarence Walker. He will enlarge it, increasing the capacity to 15 cars. Walker will establish a new garage at Ninth and Jackson Streets, where he expects to be able to handle 250 cars.

**W. J. Aiken**, Hartford, has opened an automobile accessory store at the corner of Church and Trumbull streets.

## NEW GARAGES

**S. Yudin** (200 x 202).....Ansonia, Conn.  
**W. Roberts** (70 x 104).....Waterbury, Conn.  
**A. Paoletto**.....Brooklyn, N. Y.  
**Circle Garage Co.** (50 x 200).....Brooklyn, N. Y.  
**P. W. Davendorf** (72 x 150).....Watertown, N. Y.  
**Lorenz F. J. Weiher** (175 x 206),  
 New York City

**R. Graves** (50 x 150).....Adams, Mass.  
**J. A. McKenzie & Son**.....Burgettstown, Pa.  
**H. A. Kind** (30 x 20).....Harrisburg, Pa.

## NORTHWEST

**C. W. Jewett Co.**, Bemidji, Minn., has opened a branch at International Falls, Minn. It is in charge of Glenn Gallou.

**Davis Motor Co.**, St. Paul, has leased the garage and show rooms at 197 W. Fifth Street and will sell the Allen car.

**Billings-Sheridan Motors Co.**, Billings, Mont., has opened at 297 N. Broadway.

**Frank Eberly** and **L. C. Anderson**, Lidgerwood, N. D., have opened a garage and Overland sales department.

## NEW GARAGES

**Albert Filson**.....Whitefish, Mont.  
**J. L. Akey and McCarty Bros.**,  
 Whitefish, Mont.

**N. Lindberg**.....Miles City, Mont.  
**M. T. Polish**.....Roundup, Mont.  
**Beasley & Mason**.....Absarokee, Mont.  
**Copper & Cook**.....Ennis, Mont.  
**Thomas Atkinson**.....Genevieve, Mont.  
**T. R. Hoffman**.....Plevna, Mont.  
**W. M. Cady**.....Libby, Mont.  
**Cooper & Cook**.....Ennis, Mont.  
**Kramer & Bonning**.....Wisdom, Mont.  
**C. W. Hutchison**.....Moccasin, Mont.  
**Twodot Lumber Co.**.....Twodot, Mont.  
**S. Hanson**.....Harlowton, Mont.  
**Louis Denayer** (tireshop).....Choteau, Mont.  
**Kasper Monson**.....Elmore, Minn.  
**John Mattson**.....Moose Lake, Minn.  
**Underhill & Velta**.....Canby, Minn.  
**Raymond & Bishop**.....Jasper, Minn.  
**Sacre Martilla**.....Kettle River, Minn.  
**Math. Spranger**.....Sauk Rapids, Minn.  
**R. C. Wheeler** (tireshop).....Wheaton, Minn.  
**J. H. Roth & Son** (addition),  
 Lamberton, Minn.

**Peter Viehauser**.....Upsala, Minn.  
**John Devens**.....Mankato, Minn.  
**Dorn-Johnson-Moe**.....Aurora, S. D.  
**Arthur Shoemaker**.....Hermosa, S. D.  
**Boyd & Romans** (addition),  
 Aberdeen, S. D.

**B. H. Jensen**.....Gary, S. D.  
**R. O. Dunca**.....Hudson, S. D.  
**J. A. Stenenger**.....Parker, S. D.  
**R. D. Belden**.....McLaughlin, S. D.  
**R. J. Huston**.....Sioux Falls, S. D.  
**Elliott Fink Co.**.....Tulare, S. D.  
**H. P. Titze**.....Parkston, S. D.  
**W. S. F. Doughty**.....Parker, S. D.  
**Wyckoff & Duden**.....Aberdeen, S. D.  
**Edgemont Garage**.....Edgemont, S. D.  
**O. J. Lyngstad**.....Jamestown, N. D.  
**Otto & Gus Storm**.....Oakes, N. D.  
**Archie Lewis** (repairshop).....Beach, N. D.  
**David Curtis**.....Lisbon, N. D.  
**Dahl-Buscher Co.**.....Wahpeton, N. D.  
**C. F. Forster**.....Bowman, N. D.  
**W. T. Johnson**.....Hillsboro, N. D.

## SOUTH

**C. Harry Raymond**, formerly factory representative for Chalmers and Overland cars and for the last three years sales manager of Stockell-Myers Hardware Co., Petersburg, Va., dealers in Overland, Oldsmobile and Haynes, has organized the Raymond Motor Co., Inc., and will handle the Chevrolet and Oakland cars in Petersburg, Va. He has leased quarters with the Spangle-Turple Co., 15 East Washington Street.

**Marshall Motor Co.**, of 116 East Morgan Street, Raleigh, N. C., is the name of a new car business just opened. **G. Fox Marshall** is manager. The company is North Carolina distributor for Saxons.

**Mills Tire Co.**, Raleigh, N. C., will erect a new building on Wilmington and Davie Streets. The structure will cost approximately \$5,000.

## NEW GARAGES

**C. R. Phillips**.....Fairmont, W. V.  
**George T. McCracken**.....Durham, N. C.  
**J. M. Greene** (48 x 175).....Rock Hill, S. C.  
**John W. Newton** (45 x 100).....Spencer, W. Va.  
**W. S. King** (50 x 120).....Spencer, W. Va.

## COAST

**The Taft Motor Co.**, recently incorporated by **Charles Kaar**, president; **J. F. Graham**, vice-president; **I. H. Glenn**, secretary, and **Arthur Owen**, manager, is erecting a \$28,000 garage, 80 x 175, at Taft, Cal., and will distribute Studebakers.

**Geo. F. Warren** has purchased the Studebaker Garage at Modesto, Cal., and renamed it the Modesto Garage.

**The Guarantee Battery Co., Inc.**, San Francisco, has opened a branch at 2537 Broadway, Oakland, with **D. R. Cushman** as manager.

**Mitchell Motor & Service Co.**, Seattle, has taken the agency for the Fageol truck for the State of Washington.

**J. C. Atkin**, 395 Franklin Street, San Francisco, has leased the adjoining corner store, adding 3000 sq. ft. of floor space.

**The Power Rubber Co.**, San Francisco, and Oakland, has opened a branch at 1213 Eye Street, Fresno.

**E. T. Couse**, **L. E. Gryder** and **E. E. Comstock**, operating as the Couse-Gryder Co., have opened Wallis tractor salesrooms at 49 N. First Street, San Jose.

**Nick Gandolfo** has erected a new garage at the corner of Market and St. James Streets, San Jose, Cal., and will handle National cars.

**Chas. H. Broadhurst** succeeds the **Jas. S. Remick Co.** as owner of the accessory store at 301 E. Weber Avenue, Stockton, Cal. He has entered the jobbing field with a complete line of accessories and will distribute Mohawk and U. S. tires. A special solid tire department with hydraulic press has been installed.

**The Marshall Vulcanizing Works**, Modesto, Cal., has leased the adjoining store on Ninth Street, adding 9000 square feet of floor space.

## NEW GARAGES

**Lloyd E. Beckett**, 125x114 ft., \$20,000,  
 Seattle  
**Brunn Motor Car Co.**, \$15,000..Portland, Ore.  
**P. C. Snider & W. F. Strothoff**, 80x30, \$10,000.  
 Seattle  
**Julius Rosch**, 150x110, \$25,000..La Grande, Ore.  
**J. E. Carlson**, 100x75, \$5000.....Seattle  
**F. W. Lorenz & W. G. Beerman**, 90x108 ft.,  
 Seattle  
**J. M. Ralston**, 55x84 ft.....Albany, Ore.  
**A. Tetsch**, 100x100 ft., \$12,000, Portland, Ore.  
**Boulevard Garage**, \$5000.....Seattle  
**Beno & Billis**, 60x100 ft., \$7000..Portland, Ore.  
**A. E. Lindsey**, 80x140 ft., \$12,000..Nampa, Ida.

## NEW SANFORD TRUCK DEALERS

**Hartig, Fickling & Kleim, Inc.**.....Baltimore  
**Max Shopiro**.....Perth Amboy, N. J.  
**E. K. Mitchell**.....Dunkirk, O.  
**Mutual Iron Works**.....Jersey City  
**A. J. Whissel Co., Inc.**.....Buffalo  
**Monn Bros.**.....Harrisburg  
**C. S. Ransom, Inc.**.....Boston  
**Charles Burk**.....Wildwood, N. J.  
**Harold Morrison**.....Waterville, Me.  
**F. H. Beck**.....Norway, Me.  
**M. P. Wight**.....Augusta  
**F. G. Colburn**.....Farmington, Me.  
**W. M. Spear**.....Gardiner, Me.  
**A. C. Randall**.....Richmond, Me.  
**L. L. Corson**.....Berlin, N. H.  
**Waldoboro Garage Co.**.....Waldoboro, Me.  
**Peoples Garage Co.**.....Bath, Me.  
**Bisett Bros. Garage, Inc.**.....Bradford, Pa.  
**J. E. Albright**.....Brooklyn, N. Y.  
**Bay Shore Cycle Co.**.....Bay Shore, N. J.  
**College Point Garage**.....College Point, L. I.  
**Frank H. Gates**.....Islip, L. I.  
**Great Neck Garage & Repair Co.**,  
 Great Neck, L. I.

**Abel Magri**.....Fort Washington, L. I.  
**P. Moshen & Son**.....Lawrence, L. I.  
**Henry McIntosh**.....Hicksville, L. I.  
**Newkirk Garage, Inc.**.....Brooklyn, N. Y.  
**Parkside Garage, Inc.**.....Brooklyn, N. Y.  
**Post Garage**.....Long Island City, N. Y.  
**Premier Garage**.....Brooklyn, N. Y.  
**St. Reutlingers Garage**.....Bay Side, L. I.  
**Rosies Used Car Exchange**,  
 New Rochelle, N. Y.

**Stenger-Rhom**.....Sayville, L. I.



William Steigert.....Flushing, L. I.  
C. W. Smith Garage.....Great Neck, L. I.  
Whitestone Garage, Inc.....Whitestone, L. I.  
Edwards Auto Co.....Watertown, N. Y.

## MIDDLE WEST

G. R. & S. Auto Co., Appleton, Wis., has been organized by George Greisch, Ferdinand Radtke and Edward Sieg to engage in the general automotive repair and service business in the Fransway Building, Washington Street.

Manitowoc Tire Shop, Manitowoc, Wis., owned and managed by Andrew Beck, has moved shop and office into the former Hagen garage building on Jay Street.

The W-H-I Electric Equipment Co., 807 Grand Avenue, Milwaukee, specializing in the installation and repair of automotive devices, has changed its corporate style to W. Frank Horn Co., Inc.

Northland Motors Co., Menominee, Mich., has been organized by Maj. William Carpenter and Lieut. Howard S. George, both of whom have recently received honorable discharges from the army. A salesroom and service station is being established in the Simpson Block, Main Street, Menominee. The names of the cars which the new company will represent have not been announced.

The Walter Auto Service, Appleton, Wis., has been organized by Henry Walter and William Fries and will act as district distributor of the Briscoe in the Fox River Valley. Headquarters have been opened at 892 College Avenue.

The Colton Tractor Sales Co., Milwaukee, State distributor of the Hart-Parr, is establishing a branch office and salesroom at Appleton, Wis., to serve the Northeastern Wisconsin and Fox River Valley territory. Provision will be made to keep a stock of four to eight tractors together with parts.

The Whitnall Tire Co., Milwaukee, has been incorporated with a capital stock of \$5000 to engage in the tire and repair business. The incorporators are S. E. Whitnall and Carl Reinhart.

The Rilling-Ziegler Motor Co., Milwaukee, has been organized by John E. Rilling and H. J. Ziegler, and has taken the Scripps-Booth franchise for southeastern Wisconsin. Salesrooms and service station have been opened at 501 Broadway, Milwaukee.

E. A. Haybell, representing the Columbia Motors Co., established temporary headquarters in Milwaukee, Wis., last week in order to form connections for distribution and dealerships in the Wisconsin and Upper Michigan territory.

The Hub City Vulcanizing Co., Plymouth, Wis., has been purchased by Louis Longrie and Thomas Kelly and will be known as Longrie & Kelly. George F. Wacker, the former owner, will retire.

Cuyahoga Garage Co., Cleveland, a new company recently incorporated with \$100,000 capital, is building a garage 100 x 140.

Monvis Auto Sales Co., Cleveland, has been organized to handle Harroun and Columbia cars. The firm is composed of W. S. Pickin and B. A. Schwartz.

Holmes Motor Sales Co., Detroit, has been made Detroit district distributor for Diamond T trucks. George F. Bamlet will be in charge of sales.

Spade's Vulcanizing Shop, Grand Rapids, has broadened the scope of its activities by the installation of a 200-ton vulcanizing press and a full line of Goodyear truck tires. The company previously catered to the passenger car business entirely.

Auto Trim Co., Grand Rapids, Mich., has added a customs top department and is now carrying a large stock of top materials.

## NEW GARAGES

Carl J. Sandquist, 40 x 120..Brantwood, Wis.  
Knudston & Karow (repairs)..DeForest, Wis.  
Mahler & Fuller .....Berlin, Wis.  
Joseph Arle Tire Shop.....Two Rivers, Wis.  
Frank Kraning, 50 x 106,  
Forest Home and Muskego, Aves.,  
Milwaukee

F. L. Purtell, 30x60,  
Monches, Waukesha Co., Wis.  
Anton Braun .....Menasha, Wis.  
Walter Auto Service Co.,  
892 College Ave.; Appleton, Wis.  
Colton Tractor Sales Co.....Appleton, Wis.  
Northland Motors Co. ....Menominee, Mich.  
G. R. & S. Auto Co.....Appleton, Wis.  
Portage Iron Works.....Portage, Wis.  
Ladysmith Implement Co. (branch),  
Weyerhaeuser, Wis.  
Edward Harrington, 50x80,  
601 Milwaukee Ave., Kenosha, Wis.  
Auto Garage & Service Co...Cincinnati, Ohio  
Carr Garage.....Newcomerstown, Ohio

## SOUTHWEST

J. W. Nisbeth & Son, Bevier, Mo., are building a new garage.

F. H. Thwing, Kansas City, is making plans for a three-story garage at the corner of Linwood Blvd. and Holmes, which will be 66 x 150 and will be occupied by the South Side Buick Co., sales and service.

J. A. Marshall, Cordell, Okla., is building a concrete garage, 100 x 50, which he and his three sons will manage.

The Ideal Tire & Rubber Co., Cleveland, has opened a branch in Kansas City, Mo., in charge of S. A. Thompson of Cleveland.

M. C. Cameron, Dallas, will erect a garage and service station, 90 x 150.

Block Motor Co., Orange, Texas, has opened for business, with Joe Aronson manager. It will handle Dodges and Hudsons, accessories and tires and conduct a service station.

C. R. Logan, Marionville, Mo., is building a 60 x 120 garage.

B. F. Hahn, McPherson, Kan., will erect a 55 x 150 addition to his garage.

The Arkansas Tire Co., Little Rock, Ark., will soon open to do both a retail and wholesale tire business covering the entire State. R. E. Shook will be manager.

The Harry Street Tire and Rubber Co., Kansas City, has leased quarters at 1314 McGee Street as a sales and service room for Bull tires.

Robert Barnett and Cotton Roberts, Emeline, Mo., are building a new garage.

The Lanpher Motor Car Co., Joplin, Mo., will erect a fireproof service station for Reo cars and trucks, Federal trucks and Goodyear truck tires for which they are the Joplin distributors.

Geo. D. Cochran, Dodge City, Kan., is making plans for the erection of a one-story and basement building, 50 x 40, to be used as showroom for Buicks and Chevrolets.

Walter Sharp, Eldorado, Kan., will remodel and build an addition of 70 ft. to the building now occupied by the Auto Tire & Supply Co., the addition to be used as a service station for Studebaker and Maxwell cars and an Exide battery station.

The Wasage Motor Co., Bartlesville, Okla., will erect a two-story 88 x 100 service station and salesroom.

E. M. Blue, of the Blue-Northwest Ford Co., Cherokee, Okla., has let the contract for a 75 x 140 brick garage which will be occupied by the above company.

Hale & Son, Dodge City, Kan., have opened a wholesale and retail automobile tire house at 113 West Chestnut.

M. Baldwin, Ironton, Mo., will build a new addition to his garage.

Arthur Browning, Centerville, Kan., has purchased property and will erect a brick garage.

Frank Thompson, Goodland, Kan., has completed preliminary arrangements for the erection of a second story above the Goodland garage, which will double the capacity of the present building. The upper story will be 50 x 140.

The Gulf Coast Buick Co., Galveston, Texas, has been established with E. T. El-mendorf and C. L. Hoffman in charge.

The Janesville Machine Co., Kansas City branch, will distribute the Samson tractor.

The Reliable Vulcanizing Co., M. H. Posproy, Abilene, Kan., has opened a vulcanizing shop.

The Welch-Kelley Tire Co., Kansas City, will open a shop to handle tires and supplies.

Bardley Brothers, Cherokee, Okla., have opened a new paint shop.

P. Parkin, Pittsburg, Kan., has opened a new repair and supply shop with a \$500 stock.

Estes & Frye, Warrensburg, Mo., have opened a new repair and supply shop in the Stillwell Building.

C. Barringer, Solomon, Kan., will open a new vulcanizing shop.

The Kerr Tire Shop, Wakefield, Kan., Clyde Ross, manager, has opened for business.

The Texan Motor Sales Co., W. E. Lee, manager, Waxahachie, Tex., has opened headquarters for the sale of Texan cars and trucks.

The Hallettsville Tire & Vulcanizing Co., Hallettsville, Texas, M. H. Elder, manager, has opened a steam vulcanizing plant.

The Weiling Motor Co., St. Louis, car distributor, has added the All-American truck

Joseph E. Brown has opened a day and night garage and repair service at 5255 Easton Avenue, St. Louis.

## NEW GARAGES

B. F. Kahn (55 x 150 addition),  
McPherson, Kan  
E. M. Blue (75 x 140).....Cherokee, Okla  
Seaman & Son (addition)..Burlingame, Kan  
Harry Berry (addition).....Baird, Tex  
Fred Gamper.....Hiawatha, Kan.  
John Sackman (100 x 60, \$12,000),  
Girardeau, Mo  
B. R. Farrar (50 x 150 addition),  
Burlingame, Kan  
Lute Billings.....Pittsburg, Kan  
M. E. McDearmon (50 x 120),  
Blytheville, Ark  
Edward Austin (67 x 100)..Kansas City, Mo  
Meech Blue .....Cherokee, Okla  
O. H. Reed .....Krebs, Okla  
Murry & Brown .....Sedan, Kan  
Jefferson Highway Garage, H. C. Mahon,  
Mound City, Kan  
R. A. Wright .....Neosho Falls, Kan  
Edwin Tiede .....Billings, Mo  
B. Gentry .....Wheaton, Mo  
New Travellers Auto Garage,  
O. S. Thompson, Mulberry, Kan  
Wilson & Wilson.....Hermilgate, Mo.  
James Motman .....Mulberry, Kan.  
C. Davidson .....West Plains, Mo.  
Night & Day Garage .....Maud, Okla.  
R. D. Lively .....Koshkonong, Mo.  
Charles Baker .....Clearwater, Kan.  
Fred Jones .....Wichita, Kan.  
Porter Brothers.....Purcell, Okla.  
William Wooten .....Coyville, Kan.  
D. Shoemaker .....Uniontown, Kan.  
Gould & Davis .....Joplin, Mo.  
Karl H. Beggs .....Woodbine, Kan.  
Daniels-Grinn Motor Co.....McAlester, Okla.  
Porter Brothers .....Lexington, Okla.  
Lorain Cobb .....Pittsboro, Mo

## CANADA

I. De Vorenes .....Quebec, Can.  
Belgo Canadian Co. (50 x 100), Montreal, Can.  
Jeffersonville Auto Co. (addition),  
Jeffersonville, O





*Here's a well-arranged automotive equipment exhibit. It was made by the I. J. Cooper Rubber Co. at the recent Dayton show*

### Keeping Wreckage From Trade Waters (Continued from page 11)

So we must be ever on the alert, and when an account reaches the stage where the axe is necessary, do not hesitate. USE IT. To recapitulate, we recognize:

1—*The value of the trade acceptance, and urge its more general use as rapidly as local conditions will permit.*

2—*The average garage has a high mercantile mortality rate and must receive the careful attention of the credit department.*

3—*The success or failure is largely due to causes inherent in the individual himself, and he is apt to neglect the accounting part of the business while attending to the mercantile details of the shop.*

4—*It is most certainly not good business to overload a customer with any item of merchandise, thus jeopardizing his chances for ultimate success.*

5—*Members of our own organization have a responsibility in guiding and influencing the dealer to follow the straight and narrow path of business rectitude.*

### Exhibits Were Interesting

As part of the convention of the hardware and automotive equipment men in the Hotel Statler, March 20-21, there was an interesting display of products by the makers

of automotive equipment who belong to the association. The exhibitors were:

Advance Auto Accessories Corp., Chicago; Allen Auto Specialty Co., New York; Asch & Co., Inc., New York; Beckman Co., Cleveland; Braender Rubber & Tire Co., Rutherford, N. J.; Clover Mfg. Co., Norwalk, Conn.; The Clucker Hixson Co., New York; Continental Rubber Works, Erie, Pa.

Dafoe-Eustace Co., Detroit; Durkee-Atwood Co., Minneapolis; E. A. Laboratories, Inc., Brooklyn; Fulton Co., Milwaukee; E. Edelman & Co., Chicago; General Tire & Rubber Co., Akron; Gray Heath Co., Chicago; Gray, Hawley Mfg. Co., Detroit.

Hill-Smith Metal Goods Co., Boston; Hires, Turner Glass Co., Philadelphia; Hudson Motor Specialties Co., Philadelphia; Jefferson Electric Mfg. Co., Chicago; Jenkins Vulcan Spring Co., Richmond, Ind.; J. & B. Mfg. Co., Pittsfield, Mass.; Judd & Leland Mfg. Co., Clifton Springs, N. Y.

K. D. Lamp Co., Cincinnati; Metal Specialties Mfg. Co., Chicago; Klaxon Co., Newark; F. H. & S. Co., Chicago; General Asbestos & Rubber Co., Charleston, S. C.; Milwaukee Auto Engine & Supply Co., Milwaukee; Milwaukee Tank Works, Milwaukee; Neville Steering Wheel & Mfg. Co., Detroit; Reflex Ignition Co., Cleveland; F. G. Ruddiman Co., Ionia, Mich.; Spencer Metal Products Co., Spencer, Ohio; Splittdorf Electrical Co., Newark, N. J.; Standard Woven Fabric Co., Walpole, Mass.; Star Rubber Co., Akron; Sterling Mfg. Co., Cleveland; Sunderland Mfg. Co., Chicago.

Tide Water Oil Co., New York; Thermold Rubber Co., Trenton, N. J.; Van Cleeff Bros., Chicago; Wisconsin Auto Top Co., Racine, Wis.; Mansfield Tire & Rubber Co., Mansfield, Ohio; Outlook Co., Cleveland; Pyrene Mfg. Co., New York; Polson Rubber Co., Cleveland; Michigan Motor Specialties Co., Detroit; Luthy Hydrometer Co., Detroit.

Berry Brothers, Detroit; Buffalo Specialty Co., Buffalo; Clayton & Lambert Mfg. Co., Detroit; Curtis Pneumatic Mch. Co., St. Louis; Derf Mfg. Co., New York; Gemco Mfg. Co., Milwaukee; The Globe Machine & Stamping Co., Cleveland; Locktite Patch Co., Detroit; Prescott Auto Parts Co., Webster, Mass.

Templeton, Kenly & Co., Ltd., Chicago; Walker Mfg. Co., Racine, Wis.; W. C. Wood Co., Minneapolis; "X" Laboratories, Boston; Zinke Co., Chicago; Hugh Wallace Co., Detroit; Wm. R. Johnston Mfg. Co., Chicago; T. A. Willson & Co., Inc., Reading, Pa.; Inland Pump Mfg. Co., Chicago; C. A. Shaler Co., Waupun, Wis.

Sharp Spark Plug Co., Cleveland; North-western Chemical Co., Marietta, Ohio; Arrow Grip Mfg. Co., Glens Falls, N. Y.; Badger Mfg. Corp., Milwaukee; L. P. Halladay Co., Streator, Ill.; R. M. Hollingshead Co., Camden, N. J.; Greenfield Tap & Die Corp., Greenfield, Mass.; A. Nelson Mfg. Co., Chicago; Tyler Mfg. Co., Boston; Merchant & Evans Co., Philadelphia; American Electric Co., Chicago.

Challoner Co., Oshkosh, Wis.; Motometer Co., New York; Edmunds & Jones Corp., Detroit; N. A. Petry Co., Philadelphia; New Era Spring & Specialty Co., Grand Rapids, Mich.; James H. Rhodes & Co., Chicago; Marvel Mchry. Co., Minneapolis; Rowe Calk & Chain Co., Plantsville, Conn.

### Big Parking Space for Des Moines

DES MOINES, March 28—The Iowa State Fair Grounds are to have the largest motor car park in the Middle West. The Iowa legislature this week passed a bill appropriating \$63,000 for the purchase of 40 acres of ground adjoining the fair grounds to be used for parking cars. Of the amount mentioned \$9,000 is to be used for paving.

### Released Officers With Standard Parts

CLEVELAND, March 28—Several officers who left their positions with the Standard Parts to go into government service have returned to civilian life and their pre-war work. Other officers identified with the engineering division of the Motor Transport Co. have also been added to the staff.

Capt. E. R. Finkenstaedt, formerly active in the production of the Liberty truck has resumed his duties as assistant to President Christian Grl. Major Lewis P. Kalb, until recently in charge of designing, testing and specification work in the engineering division of the Motor Transport Corps has joined the engineering staff of the company



as assistant director of engineering and Capt. A. I. Watts, in charge of the specification and record section of the engineering division of the Motor Transport Corps has also joined the engineering staff. Both Lieut. Rex Gosling, who, before entering service, was purchasing agent of the Standard Welding Division, and Lieut. Roy Jones, who gave up his position as production manager of the Perfection Spring Division to enlist in the navy, have returned to their respective plants.

### Bell Heads Jersey Dealers

NEWARK, March 31—Joseph C. Bell, former vice-president, was elected president of the New Jersey Automobile Trade Association at the annual meeting Saturday night. Bell, who is Buick manager and but 36 years old, has been in the industry about 20 years. Following the election a trade dinner was held in the Robert Treat Hotel.

The other officers chosen are: Vice-president, Clarence E. Fisher, Cadillac, Newark; treasurer, Lieut.-Col. R. A. Greene, Greene Motor Car Co., Newark; secretary, John B. Stobaueus, North Jersey Motor Vehicle Co., Newark; directors: Gordon B. Phillips, Hupmobile, Newark; C. R. Zacharias, Zacharias Garage Co., Asbury Park; Charles W. Smith, Central Motor Car Co., Bloomfield; George Paddock, Paddock-Zusi Motor Car Co., Newark; George E. Blakeslee, Crescent Automobile Co., Jersey City; H. A. Bonnell, Dodge, Newark. Directors holding over are W. H. Ellis, J. W. Mason, John B. Wallace, Lieut. William L. Mallon and George D. Thayer.

The association plans to amend the lien law and remove some of its objectionable features so as to forestall opposition which arises at each session of the legislature. An effort is also being made to secure the rebate of tax penalties imposed because some dealers did not understand that they would be classed as manufacturers under the old tax if they added bodies to cars. One dealer has been penalized \$3,400 and taxes, aggregating \$10,000 all told.

### Changes on Staff of Motor Life

NEW YORK, March 31—C. B. Ames, business manager; C. G. Sinsabaugh, editor; A. B. Hunt, Southern advertising manager, and W. W. Sheppard, Western advertising manager, all of *Motor*, have resigned their connections with that publication to become associated in similar capacities with *Motor Life*.

Sinsabaugh was with *Motor* for 4 years, previous to which he had been editor of *Motor Age* and actively engaged in the automobile field in Chicago newspaper work. Hunt, Ames and Sheppard were identified with *Motor* for approximately 12 years.

By the change A. J. Stocker, for many years with the *Automobile Blue Books*, becomes Middle West advertising manager of *Motor Life*. All five of these men will be engaged to some extent on the *Automobile Blue Books* as well.

Monte W. Sohn, former editor of *Motor Life*, leaves that post to assume the post of Director of Research and Publicity for *Motor Life*, *Automobile Blue Books* and *Automobile Trade Directory*, which constitute the trio of Associated Blue Book properties.

## NEW LONDON TRIES SHOW AND LIKES IT

### Picked Three Worst Days of Winter but Sales Came and Business Was Stimulated

NEW LONDON, CONN., March 31—This city is one of the places where the automobile business is speeding up as never before, and also one of the towns to hold a motor car show although not scheduled on the regular list as published by the trade papers of the industry.

It was New London's luck to pick the only three real winter days of the season to hold its annual exhibit. In spite of this, the Third Regiment Armory was crowded on the afternoons and evenings of March 27, 28 and 29. The affair was held under the auspices of the local companies of the state guard and managed by Julian D. Moran, assisted by Philip B. Grove. Moran, in addition to conducting the automobile exhibition, is president and manager of the only morning newspaper in the city, the *New London Morning Telegraph*.

New London is becoming one of the busiest motor car centers of the state, and the show emphasized the fact that the city presents a demand for passenger cars and trucks far greater in proportion to the population than some of the larger cities of New England. The population is 36,000.

The armory was attractively decorated in red, white and blue and the flags of the Allied nations. The exhibitors had plenty of space and the arrangement was a credit to the men responsible for the general setting of the exhibit.

Besides plenty of aisle space in the center and at the sides of the hall there was a space of three or four feet between each space. The exhibitors did not attempt to crowd their spaces, and several of them showed taste in the settings of their exhibits. Rugs and ferns added to the general attractiveness of the exhibits, and one exhibitor arranged a pagoda effect around his display that won the attention and praise of the visitors.

The number of exhibitors was larger than in previous years. Those showing cars were the Packard Motor Car Co., Packard; R. P. Smith, Dodge and Overland; the Frisbie & McCormick Co., Briscoe, Reo and Case tractor; John Avery, Nash cars and trucks; R. C. Spicer, Scripps-Booth and Atterbury trucks; Thomas Howe, Velie; Carlson & Bennett, Oakland; Samuel Selikowitch, Clydesdale trucks; J. G. Gelchell & Julian L. Williams, Oldsmobile cars and trucks; Palmer Motor Sales Corp., Chandler and White truck; Standard Garage, Paige and Daniels; Gillette & Vibber Co., Exide Batteries.

In spite of the weather the sales were far greater than the exhibitors expected, and every one of the dealers promised to contract for space at next year's show. Several who did not take space expressed regret at not placing on display their

demonstrating cars, although they knew that they could not secure cars from the factory for immediate delivery.

### Rumor Puts Another Ford Man Out

DETROIT, March 31—It is rumored here to-day that Charles Mongana, Jr., chief mechanical engineer of the Ford Motor Co., has resigned and is out. This cannot be confirmed at the Ford plant. It is also repeatedly heard on all sides that F. L. Klingensmith, vice-president of the company, will retire immediately upon his return from his vacation.

### Chicago Pneumatic Tool Sold

CLEVELAND, OHIO, March 31—The motor truck division of the Chicago Pneumatic Tool Co., was purchased Saturday by C. A. Finnegan of Buffalo, N. Y., owner of the *Buffalo Commercial*, and A. Webber, who is interested with Finnegan in various enterprises. The business will be carried on with all branches and employees as before, with the exception that it will be greatly enlarged with vigorous sales policies inaugurated. H. B. Young will be associated with the new company in an executive capacity and will be located at Chicago.

### Delco Men Meet

PEORIA, March 31—One hundred dealers of the Delco farm light system in Illinois met here March 28 and 29 for a conference and banquet. H. W. Prior, Western sales manager; R. H. White, advertising manager; R. E. Smithson, service manager; R. C. Fowler, accessory manager, and other representatives of the Domestic Engineering Co., Dayton, Ohio, the manufacturer, were present and addressed the gatherings. Demonstrations and round-table discussions upon sales methods and service filled in the two-day program, and the gathering was highly profitable and instructive to all concerned. The conference was one of a series to be held in all of the states of the Middle West.

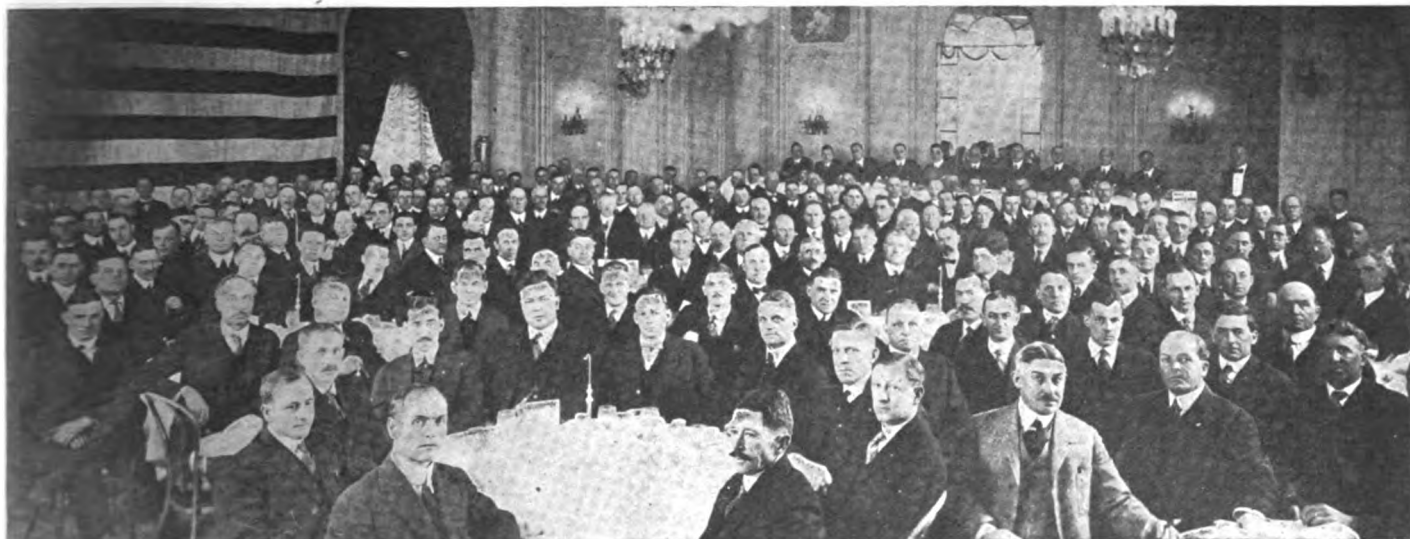
### Dayton Plant for Maxwell?

DETROIT, March 31—Maxwell-Chalmers Motor Car Co. officials will neither confirm or deny the story coming out of Dayton to the effect that the company proposes to move its big Dayton automobile plant to Detroit. Dayton newspapers, however, declare such a deal is contemplated, and that the removal will be made within the next five weeks.

### South Has Gasoline War

NEW YORK, March 31—Certain parts of the South are at present in the throes of a gasoline rate war which has brought the price of fuel down to 13 cents in Memphis. The battle was started when the Gulf Refining Co. cut its price 1 cent under Standard price and that of the other companies. Memphis has the lowest price, some other Southern cities quoting as follows: Chattanooga, 16 cents; Knoxville, 18 cents, and New Orleans, 19 cents. It is anticipated that the war may reach to Baltimore, where the Gulf company is about to open headquarters. At present the price is 22 cents there.





*Some of the Ford dealers gathered during the Boston show and listened to sales and service talks by Ford factory executives*

#### Reorganize Crow-Elkhart

**SOUTH BEND, March 31**—The financial difficulties of the Crow-Elkhart Motor Co., Elkhart, Ind., brought on by war conditions, have been taken care of and the company will soon resume normal production. Settlement of litigation following a petition for a receiver will enable the company to increase its output. H. T. Shafer & Co., Chicago, will have an interest in the concern from the fact that the Shafer company will underwrite a bond issue of \$600,000. Both the Indiana company and the Arizona corporation, forming the Crow-Elkhart Motor Co., will be dissolved and the business will be conducted by the Crow-Elkhart Motor Corp., with an authorized capitalization of \$10,000,000. H. T. Liggit, as a representative of H. T. Shafer & Co., will be auditor and treasurer. It is announced that the former stockholders will receive an equal amount of stock in the new corporation, while the creditors who had accepted a settlement on a 25 per cent basis will receive also an amount equal to 75 per cent in the stock of the new corporation. The company now has orders for all the cars that can be produced within the next six months.

#### Airplane Distribution of Parts

**WABASH, IND., March 29**—Aerial distribution of repair parts to distributors and service stations for Service trucks has been instituted by the Service Motor Truck Co. It will be handled under contract with the Service Aviation Training & Transportation Co., a separate organization formed by stockholders of the Service Motor Truck Co. A 44-acre field has been prepared for landing, and the construction of hangars has been completed. Curtiss J.N.-4 planes will be used.

#### Smith Heads Milwaukee Dealers

**MILWAUKEE, April 1**—Jesse A. Smith, distributor of the Hudson and Essex in Wisconsin and Upper Michigan,

has been elected president of the Milwaukee Automobile Dealers, Inc., succeeding Alton J. March, who served three terms. Smith is president of the Jesse A. Smith Motor Car Co., 700-704 Grand avenue, Milwaukee. Other officers were elected as follows:

Vice-president, Ray C. Chidester, manager Milwaukee branch, Packard Motor Car Co.; secretary, C. P. Hatter, East Side Buick Co.; treasurer, Frank J. Edwards, Kissel and Dodge distributor; assistant secretary and manager, Bart J. Ruddle.

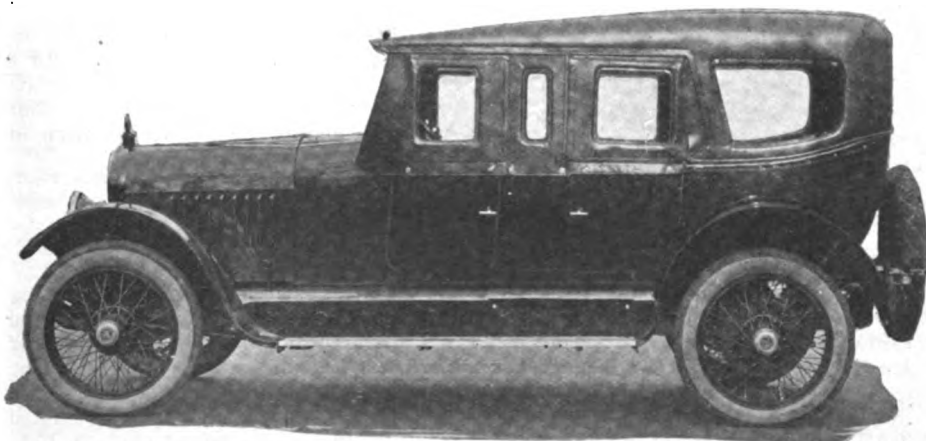
The directors are: A. J. March, Mitchell distributor; William F. Sanger, Franklin distributor; George W. Browne, Overland and Willys-Knight distributor; Rudolf Hokanson, Nash distributor, and the principal officers.

#### Canada Not Enforcing No-Glare Law

**TORONTO, March 27**—No action has as yet been taken by the Government to put into effect the law regulating headlights which was passed 2 years ago. This law has not been enforced because of technical difficulties, and particularly for lack of a standard of glare. It is understood that the Department of Highways has given careful attention to this problem, and that the standard will be defined.

#### Republic Sales Amount to \$15,749,628

**NEW YORK, March 27**—Gross sales of \$15,749,628 are reported in the financial statement of the Republic Rubber Corp. for the year ended Dec. 31. The net amount carried over as surplus for the year is \$602,918.



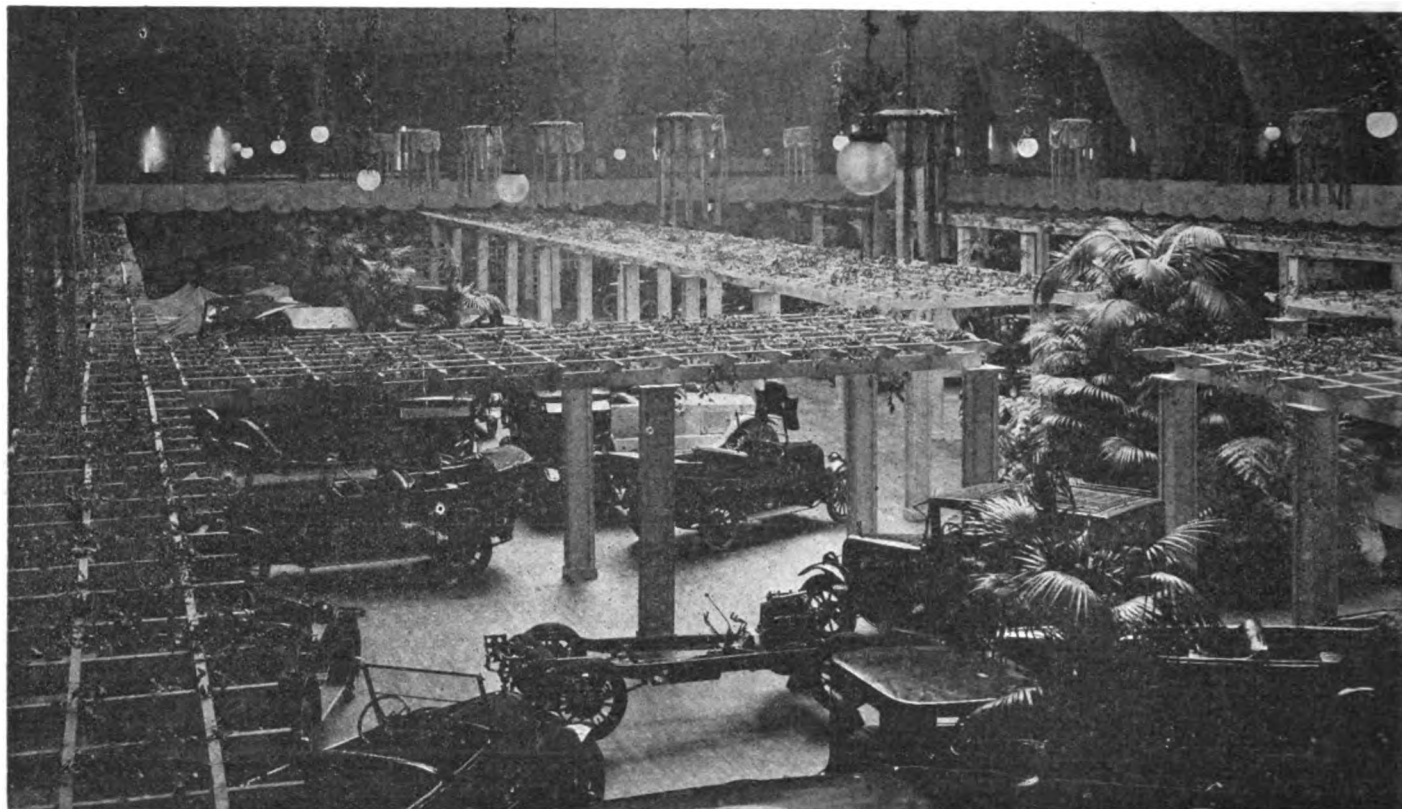
#### King Cars Shown With New Top

**DETROIT, March 28**—The new King Foursome, equipped with permanent "Class" top, made its debut for the first time in Detroit at the recent show. This top, which is a new product of the Consolidated Top Co. of Cleveland, also appeared at the Cleveland show, but not on a King car.

The King Motor Car Co., however, proposes to feature this top on the "foursome" and touring car, and has contracted for a large number of them. The

Consolidated Top Co. is not limiting its sales to the King car alone. The windows are all plate glass. The curtains or sides are removable from the windshield back to the tonneau side. The valance or the strip that the doors and curtains butt up against is removable, so that no signs of the sides are observed when the car is used during the summer months without the curtains. Ordinary storm curtains may be used as protection against rain during the warm period.





*Trenton staged one of the most beautiful shows this year. Here is a general view which will give an idea of the lavish decoration and the general arrangement of spaces*

## FOOD BY TRUCKS FOR PHILADELPHIA SOON

**Post Office Will Put on 50 to 60 Vehicles in Few Days—  
Reduces H. C. of L.**

PHILADELPHIA, March 29—Within a few days, according to announcement by the post office officials here, 50 to 60 motor trucks will be running to this city from nearby rural points, carrying fresh farm produce to the consumer direct from farms. Trucks already are being operated on six routes. Returned soldiers are being used as drivers. Eggs, poultry and vegetables form the bulk of the merchandise thus transported.

The territory covered by the trucks ranges from eastern Maryland to central Pennsylvania, and it is intended to make Philadelphia a center of this experimental plan. All deliveries are made by Parcel Post trucks, except in the case of large shipments, where bigger trucks, of course, are employed.

All the consumer has to do is to order what he wants from a farmer on the list posted and the post-office will do the rest. The person ordering the goods pays the postage. The charges are 5 cents for the first pound and 1 cent for each additional pound. Several large army trucks have been turned over to the local post office to be used for carrying the larger shipments.

When select fresh eggs were selling in Philadelphia groceries at 50 to 60 cents a dozen, a motor truck, the first in the local experiment, arrived from the Lancaster farming region with eggs for householders at 35 cents. The first stop was at the Commercial Museum. The truck carried 85 crates of eggs, weighing 4200 lb. The truck left Lancaster at 6:30 the previous day and arrived at 4:30 p.m. The eggs actually cost 32 cents, with 3 cents for postage. Fifteen separate operations and several days are thus saved by motor truck transportation of farm produce.

### Gray & Davis Make Up Dividends

BOSTON, March 28—The remaining dividend of \$1.75 in arrears on preferred and the regular quarterly dividend of \$1.75 will be paid by Gray & Davis, Inc., on April 1 to stockholders of record March 21. The directors have also voted to carry out the agreement made in February, 1918, with the preferred stockholders committee to purchase on April 1 all preferred stock deposited with the committee at 103 a share and accrued interest.

At the date of the directors' vote \$439,400 out of a total issue of \$600,000 was deposited with the committee. At present about \$440,000 has been deposited with the committee and will be retired on April 1. As there is only \$600,000 preferred outstanding, by April 1 only about \$150,000 will remain outstanding.

## OREGON FAVORS LAW LICENSING MECHANICS

**Dealer Association Supports Measure—Will Raise Standards of Work**

PORTLAND, ORE., March 29—Oregon dealers are hopeful that a material betterment of the standard of workmanship among automobile mechanics will result from enactment by the recent Legislature of a measure creating a "Board of Automotive Mechanics Examiners" to examine annually and license all mechanics working for hire on automobiles and trucks. The law becomes effective May 29.

The dealers themselves had no hand in preparing or introducing the measure. It was a surprise to them. But after carefully considering its provisions and probable effects they made no opposition to its passage.

The Dealers' Motor Car Association of Oregon subjected the measure to a careful investigation and discussion. The general opinion is that if the examination is made a real one, standards of workmanship will be very much bettered.

A typical comment is that of H. M. Covey, of the Covey Motor Car Co., which does a large motor car repair business.

"The measure should prove very beneficial in raising standards of workman-



ship through eliminating helpers from the classification of mechanics," says Covey.

"It is useless to deny that a good many men who are qualified only as mechanics' helpers are posing as motor car mechanics and getting away with it. War conditions have had a good deal to do with this, but not everything. It is possible for a man who is only partially qualified to fool even his employer for a while.

"By requiring mechanics to take an examination, this class of workmen will automatically be culled out and classified as they should be. Of course, the examination must be fair and honest, but we have a right to expect that such will be the case.

"When a man asks employment as an automobile mechanic, presentation of his license will be evidence in itself that he knows his business enough to pass an examination. This will save the employer the uncertainty and expense of trying out a man who may be posing for what he is not, will protect the motor car owner who has a right to expect expert workmanship on his car, and will protect the skilled mechanic himself.

"Lawyers, doctors, barbers, and men of various professions and trades are examined and licensed as to their fitness to practice. Why should not the same rule be applied with equally good results to motor car mechanics?"

M. O. Wilkins, president of the Dealers' Motor Car Association of Oregon, also indorses the measure.

"Dealers and repairshops have been troubled a great deal through hiring men who do not understand their business," says Mr. Wilkins. "Many of them are mere apprentices. The owner pays the price while they are learning the business. Testing a workman's qualifications by his ability to pass a fair examination should prevent this and give us all, dealer, repairman, owner and expert mechanic a square deal."

#### Clinton Planning New Truck

DETROIT, March 27—The Clinton Motor Truck Co. is bringing out a new 1-ton truck. The new model was already on the market before the war, but owing to war work and scarcity of material truck manufacture was suspended. The Clinton Truck Co. will locate its main plant in Cleveland.

#### Packard Is Now in Production

DETROIT, March 27—The Packard Motor Car Co. has completed its first passenger car since the war, and expects to be in production by the first week of April. The last war truck has been completed and the government adjustment of canceled contracts is progressing rapidly.

#### Here's Another "Saleslady"

SOUTH BEND, IND., March 28—The first automobile saleswoman to enter South Bend is Mrs. George E. Stouffer, who has just joined the forces of the Studebaker Corp. here.

## CANADIAN TRADE FOR CUT IN IMPORT DUTY

### *Purchasers of American Cars Now Pay Total of 62½%— Industry Wants It Reduced*

OTTAWA, March 29—The tariff situation in Canada is portentous. Astutely the free traders seized upon the motor car as the horrible example. In pre-war days the customs duty on passenger cars was 35 per cent. To-day passenger cars imported from the United States cost the Canadian consumer approximately 62½ per cent more than the same cars are selling for across the imaginary line to the south.

This is made up of the 35 per cent customs duty (on the United States price plus the United States 5 per cent war tax) and a 7½ per cent cumulative Canadian war excise tax.

The consuming public, the trade and, paradoxical though it may seem, even the Canadian manufacturer, have made repeated representations by deputations and otherwise to the government urging that the 10 per cent war excise tax be rescinded. The government insists that it needs the money. The industry replies that it will get it plus the increased customs revenue and business profits taxes resulting from a greatly augmented sale of cars consequent on a wide expansion of the car purchasing power of the market with cars at a lower price.

They also add that they would be able to assimilate in car production and maintenance and in all allied and interdependent industries and trades a much greater proportion of the demobilized soldiers if the 10 per cent duty were lifted as a result of greater production to meet the widened market. Furthermore it is pointed out by them that the removal of the 10 per cent tax would so reduce fixed and overhead charges per unit of production that their position with regard to export trade would be vastly improved.

#### Defer Saxon Reorganization

NEW YORK, March 27—Nothing was done at the meeting of Saxon stockholders last week because only 10 per cent of the outstanding stock was represented at the meeting.

The meeting was called by the advisory committee of creditors, which has supervised the affairs of the company since June, 1917, and the plan of reorganization prepared by this committee suggests that a new corporation be formed, to be styled The Saxon Corp., or some other equally appropriate name, to acquire the assets of the present company. The new company will have \$2,000,000 capital in 6 per cent gold bonds, \$1,250,000 8 per cent cumulative preferred stock and \$3,200,000 common stock in shares of \$100 each.

The advisory committee points out, in its

reorganization plan, that "Seemingly the present stockholders have abandoned the company and disclaimed responsibility for the outcome." To this statement Leo M. Butzel, representing the Creditors' Protective Committee, said at the meeting yesterday: "Unless the stockholders will, without delay, come to the rescue of the company a reorganization through the courts is imminent." The meeting yesterday was called for the purpose of permitting the stockholders to conduct their own reorganization.

The reorganization plan states that although it was heretofore impossible, under war conditions, to interest new capital, "responsible bankers have now signified their willingness to furnish additional capital by the purchase of bonds and preferred stock in the reorganized company, if the present creditors will acquire the entire assets of the corporation in payment of their claims and will accept the common stock in adjustment of their claims of indebtedness." In the event that such additional capital were obtained, a syndicate of bankers would "during a period of from 3 to 5 years, control the management and operation of the reorganized company." It seems likely that the advisory committee may go ahead with its proposed reorganization plan.

#### Kearns Has New 1½-Ton Chassis

BEAVERTOWN, PA., March 28—The Kearns Motor Co. is now building a new 1½-ton truck with a Continental four cylinder 3½ x 5 engine. Standard parts are assembled into the job and the specifications include high tension magneto, Borg & Beck clutch, Hotchkiss drive, Muncie three speed gearset, semi-elliptic springs, 136-in. wheelbase, solid tires 34 x 3½ in. front, 34 x 5 in. rear. The drive is internal gear and roller bearings are used in the front wheels.

#### The Week's Changes in Fargo

FARGO, N. D., March 31—One of the important features of the week is the formation of the automobile dealers and truck dealers of this city and Moorhead, across the Red River in Minnesota, into the Fargo-Moorhead Automotive Trades Association, which replaces the Fargo Automobile Dealers' Association. W. H. Horton is chairman and S. L. Sheldon is secretary.

The Kiefer Auto Co. at Moorhead will make an addition to its garage 25 x 90 at Front and Fifth Streets. It will carry two stories eventually. The first floor will be the present construction.

George Dixon, formerly Fargo Motor Sales Co., has bought the Hassler Distributing Co. from J. J. White and will have exclusive distribution of the Hassler shock absorber in South Dakota as well as North Dakota. The Lawrence-Fulton Motor Co. has opened a salesroom at 512 Front Street. The firm, composed of R. A. Lawrence of Fargo and Dr. M. M. Fulton of Moorhead, will sell the Paige and Maxwell.

The Oakland Motor Sales Co. has been organized by L. S. Thompson and H. H. Berg, at N. P. Avenue and Fourth Street N. The All-Work tractor will be sold, also. S. P. Dlemert & Son have taken the Dort agency in five counties and Rockwell & Gage Auto Co., a new firm at 53 Fifth Street N., the Reo line.

G. G. Gratias and E. S. Breyer have formed the Northern Motor Sales Co. at 219 N. P. Avenue to sell Studebaker cars and accessories.



### To Welcome Truck Sales Managers

PHILADELPHIA, March 29—The motor car interests of Philadelphia, including the truck, passenger car and accessories trades, have organized a reception committee to welcome the convention of the National Association of Motor Truck Sales Managers April 11-12.

This committee follows: C. A. Musselman, chairman. Motor Truck Association of Philadelphia—Lee J. Eastman, chairman; J. C. Schwartz and W. H. Metcalf. Philadelphia Automobile Trade Association—E. H. Fitch, chairman; W. B. McCullough and W. G. Herbert. Automobile Accessories Business Association of Philadelphia—W. Ross Walton, chairman; N. A. Petry and G. B. Shearer.

Two business sessions of the sales managers' delegates have been planned for the morning and afternoon of April 11 at the Bellevue-Stratford, and that evening there will be a dinner for the delegates in the ballroom, at which local members will be present. Covers will be laid for 300. The Philadelphia Automobile Trade Association and the Motor Truck Association of Philadelphia have joined in inviting the delegates to a

are distorted. A new car may be manufactured, but as to when it will be manufactured we are not in a position to say except that we know a new car could not possibly be designed, tested out, manufactured and marketed in quantity under two or three years."

### Sioux City Is After Roads

DES MOINES, March 28—So insistent are the people of Sioux City for a constructive good-roads law by the present Iowa legislature that they took the entire membership of the legislature in a special train to Sioux City to see what has been accomplished there in the last few years in the way of hard-surfaced roads. All the main roads entering Sioux City are paved with a 16-ft. strip of concrete. The legislators were shown these roads, some of which had seen service for 8 years and are in good condition. At the big good-roads dinner in the evening Sioux City business men told the legislators that they wanted a good-roads bill "with teeth in it" which would permit the paving of every main highway in Woodbury County.

### Gardners May Build a Car

ST. LOUIS, March 31—Russell E. Gardner and his two sons, Russell E. Gardner, Jr., and Fred W. Gardner, have established offices and an engineering workshop here to determine the possibilities of manufacturing a four-cylinder, low-priced car. The organization is now known as Russell E. Gardner & Sons. The letter-head states "capital \$2,000,000."

R. E. Gardner, Jr., says that engineering work is under way but no definite steps toward organization have been taken and none will be taken until the details of the product are worked out. His father, he says, wishes to follow the same policy that made him famous the country over as a buggy manufacturer, that of the "lowest priced article of good quality possible."

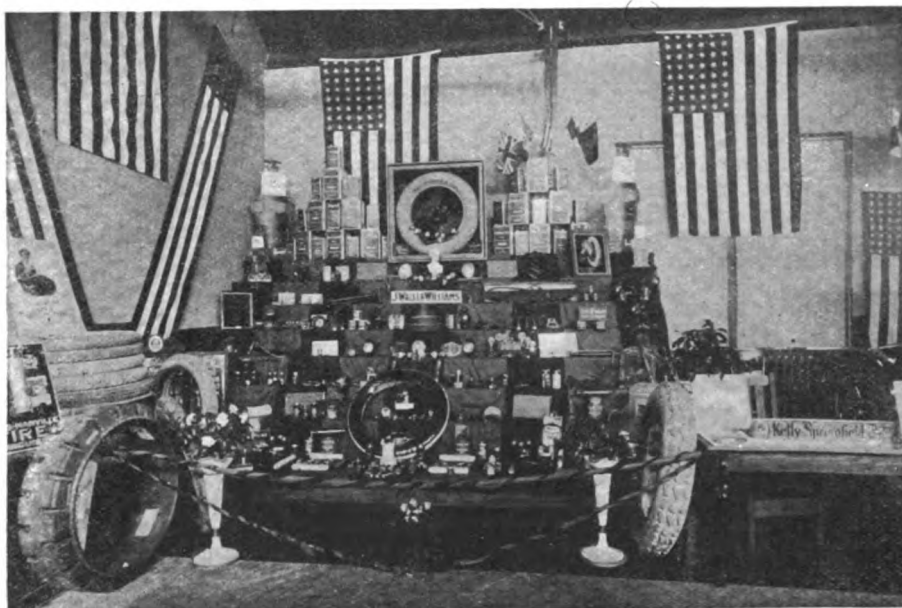
Gardner was formerly owner of the Banner Buggy Co., and later he operated the Chevrolet Motor Car Co. of Missouri. When his two sons enlisted in the navy at the beginning of the war he sold his interest in the Chevrolet to the General Motors Co. for \$1,000,000, he announced. Now that his sons are back, he is planning to aid them in organizing a vehicle business.

### Erie Helps Buy Armory

ERIE, PA., March 31—The Erie Automobile Dealers' Association has donated \$1,000 toward a fund for the purchase of a site for a new State armory. When the building is completed it will be used on occasion to house the annual automobile show which heretofore has been held in the U. S. Garage, where the space has been too limited.

### Plan Another South Bend Show

SOUTH BEND, IND., March 31—The automobile show of the South Bend Automobile Trades Association held recently was a success, but the association is of the opinion that with warmer weather the show would have been a greater success, so it has been decided to put on another show April 17.



### Salisbury's First Show

*Above is a view of one of the accessory exhibits in the first show of the Salisbury (Md.) Dealers' Assn.; and at the right is a general view of the main hall*

luncheon to be held at the headquarters of the former association on Friday, April 11.

### "Greatly Exaggerated," Says Ford

DETROIT, March 28—In a letter signed by Edsel B. Ford, sent to all dealers throughout the country, the Ford Motor Co. says that rumors or stories about the new Ford car are greatly exaggerated.

"In the first place," the letter states, "a large majority of the rumors afloat





## FIRST CLEVELAND CAR APPEARS ON STREET

*Straight-line, 5-Passenger Body  
on 118-In. Six-Cylinder  
Chassis at \$1,200*

CLEVELAND, March 27—The Cleveland Automobile Co., recently organized by F. C. Chandler, J. V. Whitbeck and other Cleveland automobile men, has completed its first experimental cars. The experimental car, which has created a big sensation when it appeared on the streets this week, is a six-cylinder job with block engine and 118-in. wheelbase. The job is a pleasing one and is built to sell at approximately \$1,200. The body is of the straight-line type, 5-passenger capacity with cellular radiator. The company is making its own axles but is using Timken ball-bearings. The ignition system is Gray-Davis battery type. The bore and stroke of the engine is 3 x 4 1/4.

### Maibohm Shows \$32,811 Surplus

RACINE, March 29—A regular annual dividend of 6 per cent was declared at the annual meeting of the directors of the Maibohm Motors Co. The financial statement of the company for 1918 shows a surplus of \$47,370, of which \$14,559 was deducted to pay for the loss due to the fire on Dec. 3, leaving a net surplus of \$32,811. Operations were continued in spite of the damage done to the plant. The company was not engaged on any war contracts, but although working only on its regular products, production was

somewhat curtailed because of government restrictions. The following officers were elected: President, H. C. Maibohm; vice-president, T. W. Cushing; secretary and treasurer, I. O. Bormann; works manager, W. C. Maibohm, and director, Albert Mohr.

### Columbus Sees a Bright Year

COLUMBUS, March 28—The annual meeting of the Columbus Automobile Trade Association was held recently at the Athletic Club of Columbus, when directors for the coming year were elected and there was a banquet. Reports showed that the past year was a fairly prosperous one and that prospects for the future are bright. Thirteen new members were received, making the membership of the association more than two-thirds of the men in every line of the automobile business in Columbus. Directors elected were: Frank Kaiser, E. W. Pavay, J. A. Howe, A. B. Coates, Y. B. Jones, F. J. Girard, George C. Bohn, C. G. McCune, R. L. Hays, C. V. Carpenter, A. R. Fishpugh and C. E. Justus. Officers will be elected by the new board of directors in a short time. Y. B. Jones will likely be selected president.

### Ford's Tractor Plants Under Way

DETROIT, March 27—Henry Ford's latest tractor projects, both here and in Hamilton, Ohio, are well under way. His big Detroit establishment is in volume production and work is progressing rapidly on eight smaller plants along the River Rouge. In Hamilton contracts have been let and work commenced on a \$1,000,000 tractor plant to be in operation in about a year.

## SPECIAL EVENTS PUT SPIZ IN COAST TRADE

*How a Show and a Race Moved  
a Big Stock of Cars and Left  
a Real Shortage*

LOS ANGELES, March 28—Special events, as a means for stimulating interest in motor cars, and thereby serving to increase the demand and enliven sales business, are proving decidedly satisfactory as put on by the Los Angeles Motor Car Dealers' Association.

During December a spirit of gloom pervaded the automobile business. In fact, there was no business. It never had been known to be so quiet. The armistice had been signed, and the war was over, but still the people were not buying automobiles. Owners preferred to keep their old cars, or else were putting such a high trade-in value upon them that dealers could not accept them profitably.

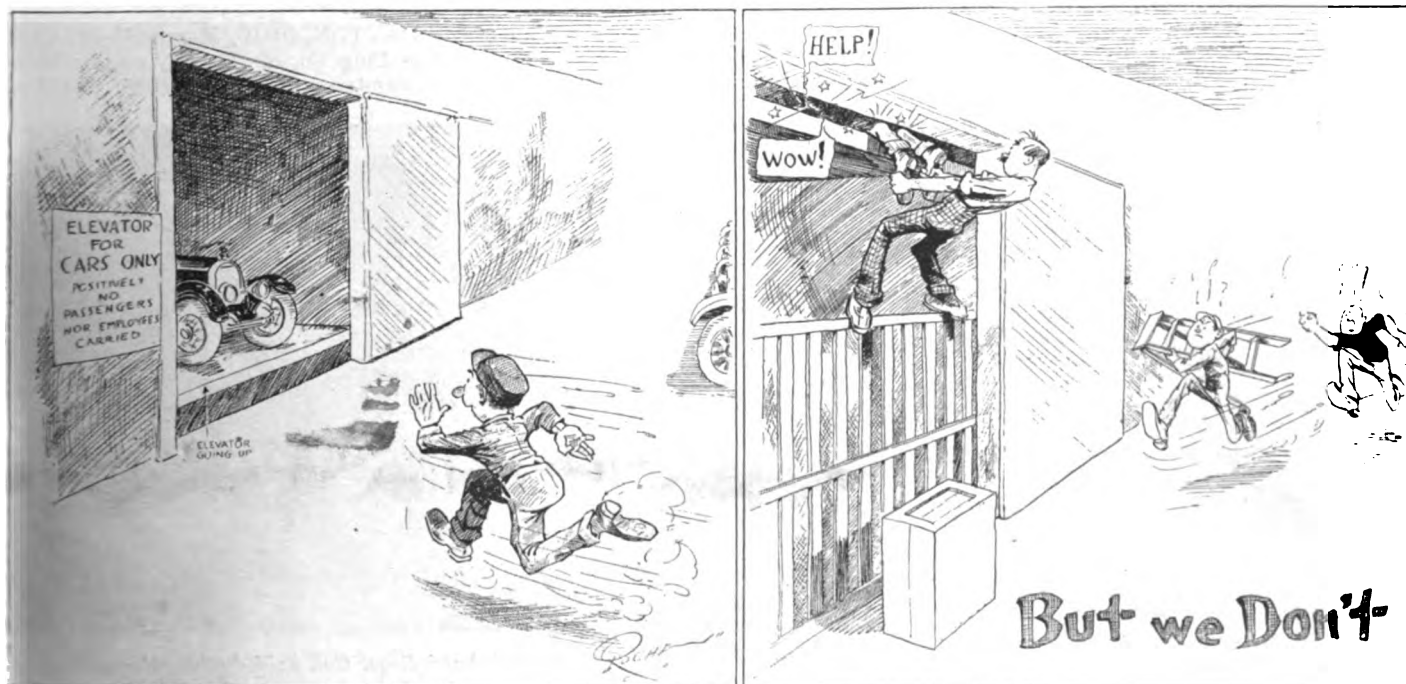
When the situation was at its darkest a few of the influential live-wire dealers held an informal meeting. In the words of one, "We'll have to do something. We've got to get under the people's skin and get them to buying cars. So long as we don't do it, nobody else will."

As the result of that gathering, a meeting of the dealers' association was called. Members were asked for suggestions, and it was agreed that the dealers should direct a campaign of events for the purpose of arousing interest.

The first event was the show. It

## If We Believed in Signs—

By Roche





proved the best money-maker of all the shows ever held here.

In the short period of four weeks business was brought out of its decline, and January, the month of the show, showed a rising market. At that time there were several thousand automobiles in storage, but to-day that stock has been dropped clear out of sight.

The show was not allowed to be forgotten before the public was informed there would be an automobile race conducted by the dealers' association. A race committee was named to handle this event without outside help or professional promotion of any kind.

A hard battle was fought with the city of Santa Monica to get that municipality to remove the ban placed on the use of the famous Santa Monica course. Injunctions were threatened by property owners.

After sleepless nights the committee threshed it all out and finally got the necessary permission. The skeptics said a successful race could not be put on without a field of star drivers.

Letters were written to the leading drivers in the East, and they refused to come to the Coast unless given a liberal money guarantee. The association did not intend to run this race for the benefit of the drivers alone, however, and turned down the propositions.

There were several of the topnotchers like Pullen, Cooper and Durant, who have interests on the Coast, and they entered the race. Fourteen other lesser lights also signed up and the race was run before a crowd of 75,000 spectators. The financial reckoning has not been made at this time, but although the race cost about \$20,000 to stage there are indications a profit will be returned to the association.

It was not profit so much that the association wanted as it was to make the people realize the need for automobiles. Now there are at least half a dozen distributors in Los Angeles entirely out of cars and begging shipments from the factories.

The vast surplus has been dissipated, warehouses cleaned out and an actual shortage already exists.

One distributor said to-day his firm is 104 cars behind its orders. Another has been buying cars in San Francisco for delivery here in order to hold the orders of buyers.

Business is here to the tune of about 3000 cars per month, but the dealers' association does not intend to stop. Other events are to be put on, the next, according to schedule, being a special non-speed contest in which the results will depend wholly upon the drivers and not the cars. "Keep the ball rolling" is the motto from now on.

#### Canadian Tractor Demonstration in October

OTTAWA, ONT., March 27—The Interprovincial Plowing Match and Tractor Demonstration will be held at Ottawa next October, the exact date to be decided upon later.

## FLOCK OF RUMORS IS SEETHING IN DETROIT

### *Ford, General Motors, Standard Parts and Maxwell-Chalmers All Mentioned*

DETROIT, March 28—This city is seething with merger rumors affecting the Ford Motor Co., General Motors, Standard Parts Co., and Maxwell-Chalmers Motor Car Co. These rumors are directly due to General Motors expansion projects. While 80 per cent must be discounted as pure "street talk," there is sufficient evidence to convince automotive circles that transactions of magnitude are pending. In every instance, however, officials of the companies are busy issuing denials.

Rumor declares that General Motors is trying to gobble up the Ford interests in the Ford Motor Co. From a semi-authentic source it is stated that the du Pont-Durant interests have made the Fords a cash offer for their holdings in this company. From another equally authentic source comes the declaration that Henry and Edsel Ford have no desire to dispose of their stock and that the first announcement of their proposed withdrawal from the Ford company was a mistake.

A typical illustration of the type of rumors going around tells of a General Motors project to purchase the Ford stock in the Ford Motor Co. for \$187,000,000 and to discontinue the manufacture of Ford cars entirely. In such an event, the plant would be used for the manufacture of Cadillac cars. General Motors officials treated this story as a huge joke.

While no statement has been issued, it is certain, however, that General Motors is planning huge expansion projects involving leading automotive concerns. It is a known fact that a consolidation of the Maxwell-Chalmers companies is being worked out with General Motors financial

aid. Details of this proposed merger are generally known among Detroit brokers. For a financial consideration General Motors is to get possession of the common stock of Maxwell-Chalmers, and while it might not take over the active management, the Maxwell-Chalmers organization would virtually become a General Motors unit.

Merger plans call for the organization of a new company to take over, on an exchange of security basis, yet to be worked out, assets of the present Maxwell Co. An effort is to be made to cancel the lease of the Chalmers Co. under which Maxwell is operating the former's plants and take the Chalmers directly into the new Maxwell corporation. Some new cash capital would be supplied by General Motors. The proposed change in management is to be deferred until the end of the current fiscal year, July 31.

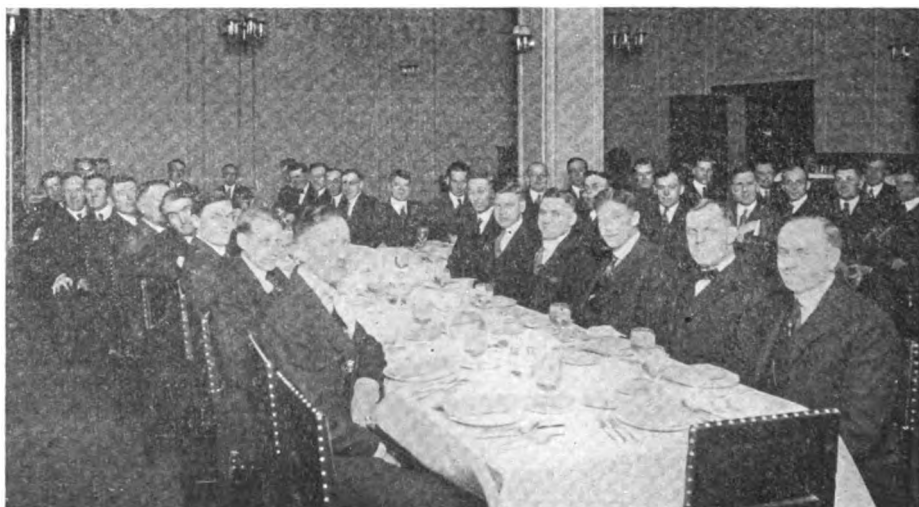
General Motors officials and officers of the Standard Parts Co. deny reports that the Durant interests are negotiating for the control of the big Cleveland concern. Absorption of Standard Parts, however, would give General Motors practically everything which goes into the manufacture of an automobile and place it in a strategic position in the manufacturing field.

#### Harroun Production Is on Increase

WAYNE, MICH., March 27—The Harroun Motor Corp., after a brief period of inactivity following the end of the war and the winding up of government work, is back in production, turning out 10 jobs daily with 150 men on the payroll. The company is 90 days behind on orders, which continue to come in large numbers, especially from the eastern territory. By June the company contemplates attaining a daily average of 60 cars.

#### Ignition Plug Co. Increases Capitalization

DAYTON, OHIO, March 28—The Ignition Plug Co. of this city has increased its capitalization from \$15,000 to \$50,000.



*Seventh annual banquet of the Reinhard Bros. Co., held during the annual Minneapolis show*



## NEW CATERPILLARS DEVELOPED BY HOLT

### *Four- and Eight-Plow Machines Reflect Influence of War Automotive Apparatus*

PEORIA, March 31—The Holt Mfg. Co. has brought out two new Caterpillar farm tractors—one a 5-ton, 4-plow machine and the other a 10-ton, 8-plow machine. In general design they are practically the same as previous Caterpillar models, but have been slightly altered and refined as a consequence of the company's experience in building war automotive apparatus.

Both models show external evidence of military influence in their automobile style hoods. The seat is more comfortable and is located so as to give the driver a view both of the field ahead and of the work of his implements. The belt pulley is placed at the rear; the lubrication system has been improved.

The 4-plow model is equipped with a 4-cylinder modified Class B Liberty truck engine in which the bore and stroke are  $4\frac{1}{4} \times 6$  in. Ignition is by high tension magneto and lubrication by a pressure system through a drilled crankshaft with a by-pass feed to the rocker arms and return to the crankcase; a standard type of centrifugal governor, fully enclosed and sealed is fitted. Provision is made for mounting an electric lighting generator and starting motor.

The master clutch is a dry, multiple disk type, transmitting the drive through a standard 3-speed and reverse gearset of selected type. Drive is through a pair of bevel gears with two spur gear reductions from the steering clutch to the track drive sprockets. There is no differential, and steering is effected through steering clutches independently operating the tracks. Speeds as 1.3, 2.6, 4.9 m.p.h. ahead and .97 m.p.h. reverse.

The 8-plow machine has a 4-cylinder, vertical  $6\frac{1}{2} \times 7$  in. engine, all the other units being of similar design and differ-

ing only in size. Speeds are 1.35, 2.52, 3.88 m.p.h. ahead and 1.0 m.p.h. reverse. The overall length is 146 in. and the weight 18,600 lb. The overall length of the 5-ton machine is 124 in. and the weight 9,400 lb.

#### New Small Oil-Pull Tractor

LAPORTE, IND., March 31—The Advance-Rumely Thresher Co. has developed a new small four-wheeled tractor which is quite similar to its older models and which is designed to pull three 14-in. mouldboard plows or four disk plows. It is rated 12-20 hp. and follows standard Oil-Pull design and construction throughout. It has a slow-speed, two-cylinder, horizontal, heavy-duty engine equipped with a Secor-Higgins carbureter burning kerosene and has the usual oil cooling system and fanless radiator. All transmission gears are cut from forged steel blanks and are thoroughly protected from dust and run in oil. Transmission shafts and axles are mounted in Hyatt roller bearings. The gearset provides forward speeds of 2.1 and 3.25 m.p.h., and reverse.

#### Makers Discourage Drive-Aways

DETROIT, March 27—Detroit automobile manufacturers are discouraging distributors who come to the city with the intention of driving away their cars. The manufacturers declare an automobile leaving the factory new is not a new car when it reaches its destination 500 or 1000 miles away, as the case may be. The cars are affected by the road-shocks and usage, and the cost to the dealer of placing them in salable condition when the trip has ended will more than offset freight charges.

During the past 2 years drive-away operations were encouraged owing to congested transportation facilities and a great freight car shortage. Very frequently dealers could not have obtained automobiles had they not come to Detroit and driven the machines back. During these years manufacturers urged the drive-away method, knowing that it was the only method of meeting the transportation problem.

## QUAKER ASSOCIATIONS TO CO-OPERATE BETTER

### *Have Already Influenced Legislation and Plan Bigger Work —Airplane Field*

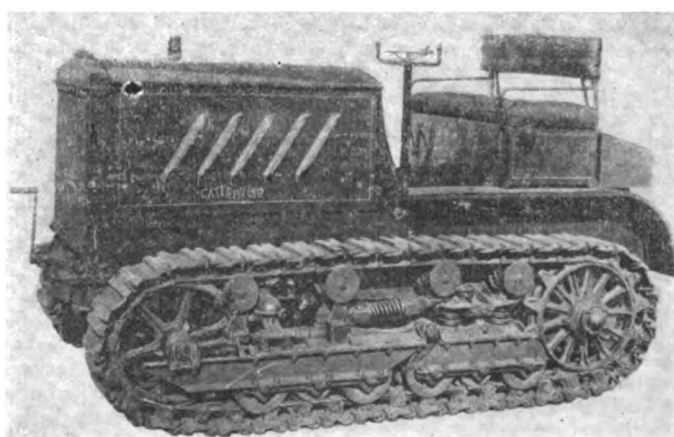
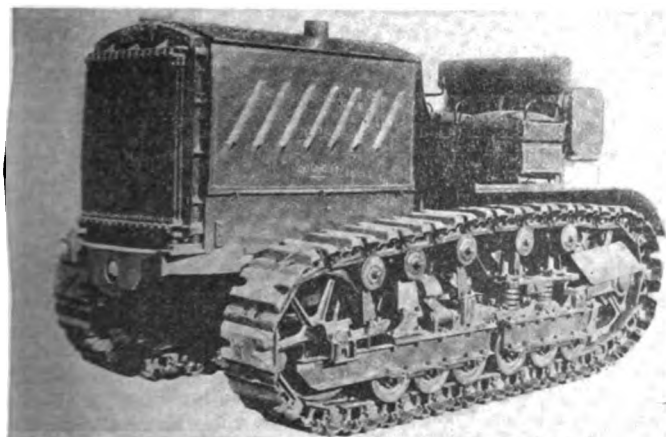
PHILADELPHIA, March 29—Secretary W. H. Metcalf reported at the March meeting of the Motor Truck Association of Philadelphia that conferences with the Harrisburg legislators on the Dithrich and Buckman bills had resulted in a virtual agreement on 26,000 lb. as the maximum weight for trucks, a length of 26 ft. and a width of 90 in. The association's legislative committee, it was announced, had been assured that the motor truck industry would be treated fairly at Harrisburg.

An agreement has been made for co-operation between the Philadelphia association and other associations in the State, including that at Lancaster, with regard to obtaining satisfactory legislation. The Lancaster County Motor Truck Association, recently formed, has elected Edward Stimson, a former Philadelphian, as its president, it was stated.

Several members, including Chairman Schwaake, of the traffic committee, in speaking of the proposed restrictive laws at Harrisburg, emphasized the necessity for constant watchfulness on the part of the trade against the passing of adverse measures.

Attention was called to a bill just introduced requiring pneumatic tires on all motor trucks in this State, and to an ordinance pending in Philadelphia councils forbidding parking of cars anywhere throughout the length of Broad Street. It was objected to on several details.

Clarence P. Wynne, former president of the Philadelphia Aero Club, advocated the provision of a public airplane landing field at League Island Park or some other suitable, centrally located tract, and suggested that before long airplanes would be conducting commercial business on a large scale between all large cities.



*The two new Holt caterpillar tractors which have been developed for farm use through experience which the Holt company has had in building war automotive apparatus. The machine at the left is the 8-plow size; that at the right is the 4-plow size*



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

C. M. Menzies, general manager of the Northwest Auto Company of Portland, Ore., for the past two years, prior to which he had been sales manager since 1913, has resigned. His future plans have not been announced. W. J. McCallum, for 21 years with the International Harvester Co. of America, succeeds him.

W. J. McCallum, Portland, has been promoted from department manager to manager of the Northwest Auto Co., to succeed C. M. Menzies, resigned.

Herbert A. Buchbinder, recently returned from the service, has been made sales manager of the Harley Buick Sales Co., Detroit, with which firm he has been associated for several years.

V. K. McBride, formerly assistant sales manager of the Federal Motor Truck Co., has been appointed to a similar position with the Premier Motor Corp., Indianapolis.

R. E. Page, former assistant foreign sales manager of Dodge Brothers and previously connected with the Universal Motor Truck Co., has been placed in charge of Canadian representation for the Commerce Motor Car Co. He will make his headquarters in Toronto.

Jack Neely, formerly with the sales department of the Roamer distributing agency at Kansas City, has been made assistant sales manager of the Barley Motor Car Co., Kalamazoo, Mich.

Eugene Bomb, with the Hudson Motor Car Co. since its organization, has been made manager of the service department at the factory.

Edward T. Walling, associated with Spranger Wire Wheel Co. for 5 years as assistant general manager, has resigned to take effect April 1.

H. B. Niblette has been appointed supervisor of the tire sales division of the Thermoid Rubber Co., Trenton.

### ADD RETAIL

William D. Keith has formed the William D. Keith Motors Co. in Shreveport, La., and is handling the Marmon and Maxwell and the Maxwell Truck. Keith began his business career as office boy with the Lee Hardware Co. and until recently was with the Wray-Dickinson Co. as secretary-treasurer and manager of passenger sales. His territory includes Eastern Texas and most of Louisiana.

H. S. Hanchett, formerly connected with the Ford Motor Co., and recently manager for Bingham & Norton, St. Paul, dealers for Stutz, Reo and Scripps-Booth, has become sales manager for the North States Motor Co., Minneapolis, distributor of the Auburn for Minnesota, North and South Dakota, Montana and Western Wisconsin.

R. A. Doty, formerly Mayor of the City of Waterloo, Iowa, and more recently with the Cushman Motor Works, Lincoln, Neb., has become associated with the wholesale organization of the Overland Hanson Co., Waterloo.

Walter E. Anderson has become associated with the Curtis Tire Rubber Co., Muskegon, Mich., in the capacity of sales manager.

Walter P. Hanson has joined the Haynes Automobile Co., Kokomo, as assistant advertising manager. Before his enlistment in the navy he was a newspaper and magazine writer.

C. H. Breaker has been appointed assistant sales manager of the Diamond Chain & Manufacturing Co., Indianapolis. For the past year he has been in the air service, and for 9 years previous was with the Larkin Co.

### Show Promotes Elton Sales

YOUNGSTOWN, March 31—Lynn M. Shaw, secretary of the Youngstown Automobile Dealers' Association, has been made manager of a new department with the Elton Motors Co., Youngstown, Ohio. The new department is known as the "department for promotion of sales," and includes advertising and publicity. It will embrace features that are known to have been profitable in similar departments of large distributors elsewhere. Albert Elton, general manager of the Elton Motors Co., proposes to make of this department a direct contact with prospects and present owners.

Shaw formerly was automotive news editor of The Telegram in Youngstown. He was made secretary of the dealers' association at its inception. At that time he was employed in the reportorial department of The Telegram, but on his return from the infantry officers' training school at Camp Grant last November was made circulation manager of The Telegram.

He remains as secretary of the Youngstown association. He is a member of the dealer and legislative committees of the Ohio State body, in which he has taken a prominent part.

### ETHEL JUDD McGUIRK

ETHEL JUDD McGUIRK, 38, for six years active in trade organization work in the Middle West, died of pneumonia at his home in Chicago, Sunday, March 23. He was ill only a week. Funeral services were held Wednesday, March 26, in charge of the Royal Arcanum, with interment in Mount Greenwood Cemetery. He leaves a sister and a widow. The Chicago Garage Owners' Association and representatives of the Illinois and other State trade associations attended.

McGuirk was born in Michigan on a farm, but left it when a boy, borrowing money to go to Chicago to attend a business college. After leaving business college he engaged in various enterprises, working along promotion and development lines with success.

About six years ago he was made secretary and manager of the Garage Owners' Association of Illinois, and was a prime factor in carrying that association through its early days and bringing it down to its present position, with good membership and finances. He also contributed to organization work in other



LYNN M. SHAW

western States, and was personally responsible for much of the success of trade association work even when he, as he often did, remained in the background but contributed his effort and influence. Some of his best work for the trade is not known to the trade.

Some time ago he nominally withdrew from association work to concentrate on directory work and other private enterprises, but his effort for organization was still being continued up to the time of his illness.

### John Millen Passes Away

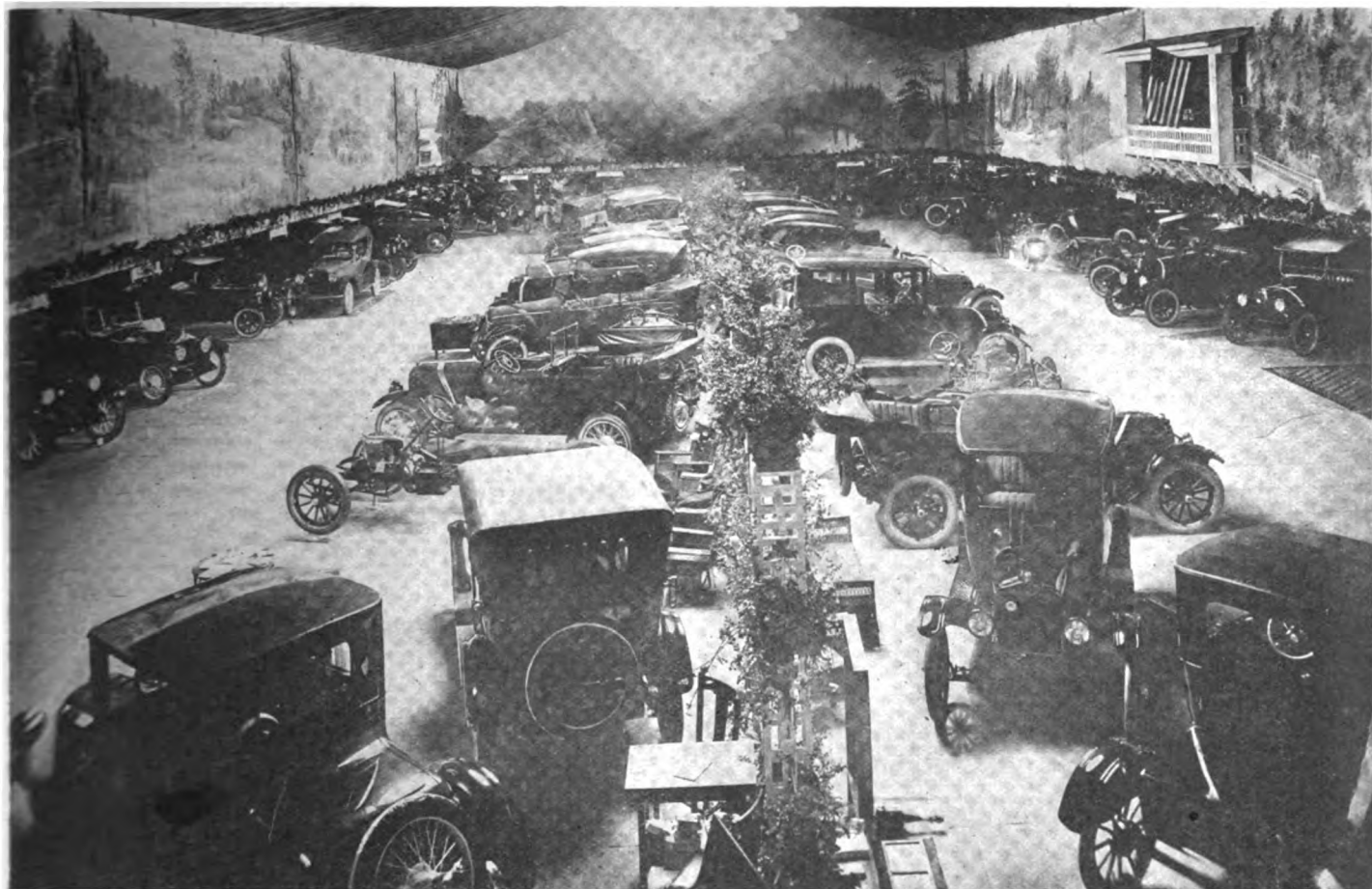
MONTREAL, March 27—John Millen, president of the firm of John Millen & Son, Limited, died March 25, following a surgical operation. He was in his seventy-sixth year.

It was only a few weeks ago that Mr. Millen celebrated the jubilee of his business foundation. Born in this city, he entered the service of the firm of L. Blaiklock on St. Lawrence street, 60 years ago, but 10 years later he started a general hardware business. In his long career the founder of the firm dealt in hardware, sporting goods, bicycles, steam and electric railway supplies, and more latterly automobile supplies and accessories. The present company was incorporated in 1906, when it changed its character from retail to wholesale. Mr. Millen is survived by his widow and two sons, E. D. Millen, who is with the Grand Trunk Railway in Toronto, and J. Ernest Millen, managing director of John Millen & Son, Limited.

### MacDonald Director Public Roads

WASHINGTON, March 27—Thomas H. MacDonald, chief engineer of the Iowa State Highway Commission, has been appointed Director of the Bureau of Public Roads, Department of Agriculture, succeeding Logan Waller Page, who died suddenly at the Chicago Road Convention last December. Mr. MacDonald will assume his new duties as soon as he can arrange his Iowa work. He will supervise and direct all the activities of the bureau under the Federal aid road act.





*Twenty-four dealers took part in Seattle's show, which was held in the armory. They all say it was the best show yet*

## *Seattle's First Show in Three Years Draws Well*

SEATTLE, March 28.—Seattle's automobile show, the eighth given by the Seattle Automobile Dealers' Association, was held in the National Guard Armory March 10 to 15 inclusive. The show was the first in 3 years, the last one having been held in 1916. Dealers unanimously affirm the event surpasses any of its predecessors in every way. The general public patronized the show freely and more enthusiasm and zip was manifested than at any similar display.

Two outstanding features should be commented upon. First, the show was staged, managed and financed by dealers without any outside assistance; second, it was a money-maker. It might also be worthy of mention that every dealer, or exhibitor, approached on the subject, unqualifiedly asserted that his own particular business was helped and will be helped by the show.

One half of the profit has been turned over to the Washington Automobile Chamber of Commerce, to secure legislation which will not only benefit dealers, but motorists as well. The other half goes to the Seattle Automobile Dealers' Association.

Twenty-four local dealers had cars on exhibition at the show. There were 61 cars on display, including seven chassis and two motors.

The attendance for the week totaled

something over 30,000—an average of 5000 per day. Interest was sustained to the end. The last day's patronage was the largest during the week and more cars were sold in the floor than on any other day.

Every exhibitor at the show made sales during the week. The dealers in medium high priced cars made the most sales, each one averaging from six to nine cars during the show. There was one \$9,000 sale and at least two \$7,500 sales. However, cars ranging from \$1,800 to \$3,200 sold better. The calls for cheaper cars were comparatively few.

### **Decorations Excellent**

The show was put on in a colorful setting, more than \$4,000 being spent for decorations alone. The spirit of co-operation among the exhibitors could not be excelled. Everyone did all that was humanly possible to make the show a success and viewed from every angle it was a success.

During the week all of Seattle's motor car dealers maintained open house at their salesrooms. The impetus given the motor car industry by the show at the Armory was reflected in the volume of business transacted on The Row.

During the past several months the automobile business in the Northwest generally and Seattle specifically has lan-

guished. Sales were few and a revival was absolutely necessary. The automobile show was needed. Local dealers now confidently predict they will sell more cars by far than last year, which was considered to be the biggest year in the history of the industry. Several large dealers assert business will be 25 per cent heavier than last year in spite of the fact that many of the war industries have ceased to boom.

Stocks, in the case of most dealers, are in fair shape, but the present freight situation is giving considerable concern. New shipments are coming through rather slowly at a time when shipments are needed to fill the constantly increasing demand.

The recent strike of shipyard and allied industrial workers (approximately 30,000 in all), which continued for seven weeks, had a more or less deterrent effect on early spring sales. With the differences between shipyard employers and employees adjusted, much new business is expected to materialize immediately. Shipyard workers last year were heavy buyers of moderate priced cars and from all reports their business was very desirable. Several dealers had special "shipyard salesmen," who looked after this custom alone. With the yards going full blast again, another profitable season is bound to result.



## COMING EVENTS

### Passenger Car and Truck Shows

Cumberland, Md.....	Mar. 31-Apr. 5	Automobile Dealers' Assn., Armory.
New Orleans, La.....	Mar. 31-Apr. 5	Henry B. Marks, Manager.
Denver, Col.....	Apr. 1-5	Denver Automobile Trades Assn., Stadium, Inc.
		Arthur E. Sherwood, Manager.
Macon, Ga.....	Apr. 3	Motor Truck Demonstration, Macon Automobile Chamber of Commerce.
Brooklyn.....	Apr. 5-12	Trucks, 23rd Regiment Armory, Brooklyn Motor Vehicle Dealers' Assn. I. C. Kirkham, Manager.
Montreal, Can.....	Apr. 5-12	National Motor Show of Eastern Canada, Victoria Rink. T. C. Kirby, Manager.
Bridgeton, N. J.....	Apr. 5-12	Fourth Annual Automobile Dealers' Assn.
Deadwood, S. D.....	Apr. 8-12	Seventh Annual, Cars and Tractors, Deadwood Business Club.
Waynesburg, Pa.....	Apr. 16-19	Automobile Dealers' Assn. of Greene Co., Armory. Frank L. Hoover, Manager.
Bristol, Va.-Tenn.....	May 10-17	Cars, Trucks, Tractors, Airplanes and accessories. Bristol Chamber of Commerce. C. W. Roberts, Manager.

### Foreign Shows

Paris, France.....	Oct. 15	Grand Palais—International Automobile Manufacturers' Congress.
London, England.....	November	Olympia—International Automobile Manufacturers' Congress.

### Meetings

Philadelphia, Pa.....	Apr. 10-12	Convention, National Association of Motor Truck Sales Managers, Bellevue-Stratford.
Hot Springs, Va.....	June 2-6	Convention, Automotive Equipment Assn., Homestead Hotel.

### Races

Uniontown, Pa.....	May 17	Probably 112½ miles.
Indianapolis, Ind.....	May 31	500-Mile Sweepstakes, Indianapolis Speedway.
Cincinnati, O.....	July 5	Speedway.
Uniontown, Pa.....	July 19	Mid-Summer Meet. Speedway.
Sheepshead Bay, N. Y.....	July 26	Speedway.
Elgin, Ill.....	Aug. 22-23	Speedway.
Sheepshead Bay, N. Y.....	Aug. 23	Speedway.
Uniontown, Pa.....	Sept. 1	Speedway.
Sheepshead Bay, N. Y.....	Sept. 20	Speedway.
Cincinnati, O.....	Oct. 1	Speedway.

### Tractor Demonstrations

Walla Walla, Wash.....	Apr. 15	Sectional Tractor Demonstrations.
Sacramento, Cal.....	May 5	Sectional Tractor Demonstrations. Demonstration Field.
Denver, Col.....	Early June	Sectional Tractor Demonstrations.
Wichita, Kan.....	July 21-26	Automotive Committee of National Implement Assn.
Aberdeen, S. D.....	Early August	Sectional Tractor Demonstrations.

### Aeronautical Exhibition

Atlantic City, N. J.....	May 1-June 1	Second Pan-American Aeronautic Convention and Exhibition.
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### 28 Highway Bodies Associate

KANSAS CITY, March 31—Twenty-eight interstate highway associations have so far qualified for membership in the Associated Highways of America. They represent about 50,000 miles of marked highways, reaching to nearly every part of the United States, to the borders of Canada and Mexico, and to the coasts. By the time Congress convenes the organization will be further strengthened. And it will back a bill for a Federal Highway Commission—probably one of the bills already introduced.

The Associated Highways of America will present the combined system of marked highways of its membership, as the plan for Congress to adopt, for the federal system to be built and maintained by the government.

The Associated Highways of America was organized in Kansas City Jan. 21, 1919, by officials of interstate and trans-continental highway associations. Its own strength consists in the strength of its component route associations, and it is therefore now actively engaged in making each specific route association stronger than it has ever been before.

The requirements for membership (already complied with, as stated, by 28 associations) are:

"The route must have a definitely specific and uniformly marked highway, not less than 500 miles in length, entering not less than three states—each route thus being a real National trunk line highway.

"The route must have a man in active control, because no organization is a success unless some one is directly in charge of its activities.

"It must have one member for every mile of road in the county in not fewer than 60 per cent of the number of counties into which it enters in each state."

### Cedar Rapids Plant for National Tractor

CEDAR RAPIDS, IOWA, March 28—The National Tractor Co. will start construction at once on a storage and paint building which is to cost \$26,000. The new building will be one story, 120 x 160. Cedar Rapids will be the western distributing point for the National Tractor Co. and when the new building is completed 10 tractors will be turned out a day.

### BOOK REVIEW

**Automobile Liability: How to Deal With It.** By John A. Post. E. T. Dutton & Co., New York City.

This book condenses into 45 pages a large amount of legal knowledge as to the close points of law and evidence in automobile accidents. The traffic regulations are not stated; they are similar throughout the United States, and the owner is presumed and required by law to know them. The book relates only to such cases as are apt to occur and suggestions most likely to be of value. The contents include the subjects of what to do in case of an accident, how to secure evidence, contributory negligence, owner's negligence, settlements, forms of release, defects in automobiles, collisions, injured guests, letting and loaning car and chauffeurs, owner's liability, joint ownership, insurance, etc.

### Get This Book on Rural Motor Express

THE *American Magazine* in a recent issue ran a story on the Rural Motor Express by F. W. Fenn, secretary of the Rural Motor Express Committee of the National Automobile Chamber of Commerce. The book told in everyday language the story of what the Rural Motor Express means to the people of this country.

This book will make good propaganda in interesting men in your territory in buying trucks for this class of service. It will be helpful in getting civic organizations to investigate this movement and endorse it.

Drop a line to F. W. Fenn, 7 East Forty-second Street, and ask him for a copy of this book. He wants you to have one.

### Walker-Weiss Now Flint Axle

FLINT, March 31—The Flint Motor Axle Co. is the new name taken by the Walker-Weiss Axle Co. The capital stock and the policy of the company will remain unchanged, and with the exception of W. T. Walker the same men are in control of its affairs. Walker disposed of his interest last April and the remaining members of the concern took over his stock.

### John Edgar Johnson

CHICAGO, March 31—John Edgar Johnson, aged 45, secretary-treasurer of the Warner Gear Company, Muncie, Ind., died suddenly Sunday morning after one week's illness. Johnson was born in Ashtabula, Ohio, but was a resident of Muncie since the age of 7. He was also associated with the Morrison-Johnson Insurance Co., and a director of the Muncie Savings & Loan Company.



Farm  
Tractors

## MOTOR WORLD GUIDE

Farm  
Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Acme.....	12-24	6,000	.....	W	4	Beaver	4 1/2 x 6	4 1/2 x 6	G or K	3	Elgin.....	12-25	3,300	\$1385	W	4	Erd	4 1/2 x 6	4 1/2 x 6	G, K or D	2-3
Allis-Chalmers	6-12	1,850	.....	W	2	Owens	2 1/2 x 4	2 1/2 x 4	G or K	2-3	Farmer Boy.....	8-12	3,300	1500	W	4	Overland	4 1/2 x 6	4 1/2 x 6	G, K or D	2
Allis-Chalmers	10-18	4,800	.....	W	4	Owens	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farm Horse.....	10-20	3,300	1350	W	4	Waukesha	4 1/2 x 6	4 1/2 x 6	G, K or D	2
Allis-Chalmers	15-30	5,300	.....	W	4	Owens	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	16-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Allis-Chalmers	14-28	4,800	.....	W	4	Owens	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
American.....	15-30	4,975	\$1595	W	4	Beaver	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
American.....	12-20	5,000	1000	W	4	Beaver	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Appleton.....	12-20	4,900	.....	W	4	Buda	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Atlas.....	16-28	5,400	1750	W	4	Waukesha	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Aultman-Taylor	15-30	5,569	.....	W	4	Waukesha	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Aultman-Taylor	22-45	12,500	.....	W	4	Waukesha	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Aultman-Taylor	30-60	23,000	.....	W	4	Waukesha	4 1/2 x 6	4 1/2 x 6	G or K	3-4	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Austin.....	5-10	750	.....	W & C	2	LeRoy	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Austin.....	12-20	3,500	.....	W & C	2	LeRoy	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Austin.....	15-30	4,500	.....	W & C	2	LeRoy	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Austin.....	20-40	5,500	.....	W & C	2	LeRoy	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Austin.....	20-40	5,500	.....	W & C	2	LeRoy	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Auto Tiller.....	75-125	25,000	.....	W	4	Buffalo	4 1/2 x 6	4 1/2 x 6	G or K	4-5	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery B.....	8-10	2,800	365	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery Cultivator.....	8-10	2,800	550	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	8-10	3,000	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	12-25	7,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	14-28	8,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	18-36	9,250	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	25-50	12,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Avery.....	40-80	22,000	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Bates All-Steel.....	15-25	4,000	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Bates Steel Mule.....	12-20	4,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Bean Tractor Pul.....	6-10	3,100	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Beeman.....	11-14	4,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Beltrair.....	12-24	3,450	1200	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Blumberg.....	12-24	3,450	1200	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Boring.....	15-30	3,900	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Boss.....	20-40	7,600	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Brilliant.....	12-20	4,900	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Buckeye.....	16-30	5,500	5500	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Buckeye.....	24-45	21,000	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Bull.....	12-24	5,000	1075	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Capital.....	15-36	4,000	1500	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Case.....	20-50	6,000	2000	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Case.....	10-18	3,240	1200	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Case.....	10-20	4,900	1325	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Case.....	15-27	5,100	1600	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Case.....	20-40	7,300	3000	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Chase.....	9-18	4,800	1200	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Cleveland.....	12-20	3,175	1585	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
C.O.D.....	13-25	6,500	1395	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Coleman.....	16-30	4,295	1750	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Common-Sense.....	20-40	6,000	2200	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Craig.....	15-25	4,500	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Creeping Grip.....	15-25	7,000	2000	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Dakota.....	17-27	5,300	1750	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Dart Blue J.....	15-30	4,500	1750	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Denning.....	9-16	3,800	1075	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Denning.....	12-22	4,200	1375	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Dill.....	20-40	4,400	2480	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Do It All.....	2-6	.....	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Eagle.....	16-30	7,100	1835	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Eagle.....	27-58	5,860	1545	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K	2-3	Farmer Boy.....	18-30	4,850	1485	W	4	Climax	4 1/2 x 6	4 1/2 x 6	G or K	3-4
Eagle.....	9-16	4,260	.....	W	4	Assoc. Mfrs.	4 1/2 x 6	4 1/2 x 6	G or K</												



# MOTOR WORLD GUIDE

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ABBREVIATIONS.—"A Kent" Atwater Kent, "A-Lite" Auto-Lite, "Conn" Connecticut, "C & D" Gray & Davis, "Eiman" Eismann, "J. N. E." North East, "W. Land" Ward Leonard, "88" Straight 88. "QD" Quod Detachable, "C" Clobber, "QDE"—*Study* means that the rear tire are 8024 and the front are smaller.



# MOTOR WORLD

*for*  
**DEALERS, JOBBERS AND GARAGEMEN**

Volume LIX  
Number 2

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, APRIL 9, 1919

Fifteen cents a copy  
Two dollars a year



U. S. BALL BEARING MFG. CO. (Conrad Patent Licensee) CHICAGO, ILL., U. S. A



## Powerful on Soft Ground

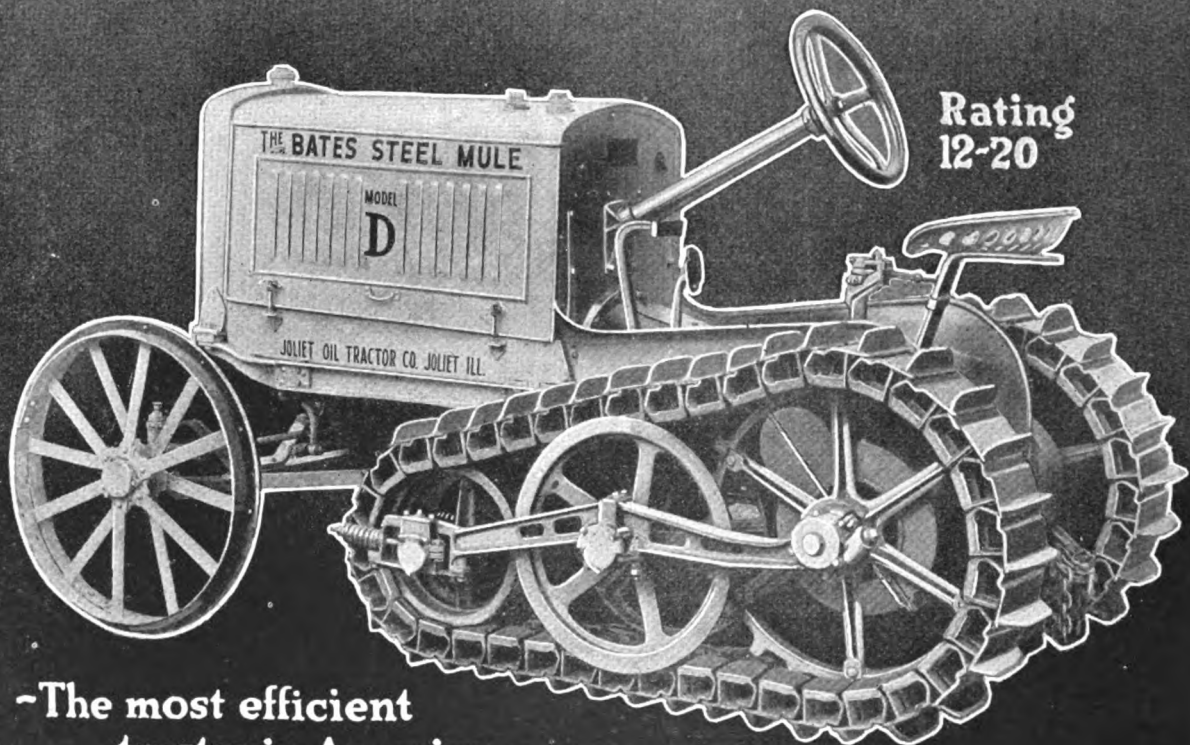
The twin crawlers of the Bates Steel Mule lay a firm runway on the soft ground, which runway is held from slipping by twenty-four cleats. This runway has a ground pressure of less than  $3\frac{1}{2}$  pounds per square inch and, being geared to it, the tractor pulls as big a load on soft ground as it can on firm footing.

The absence of slipping is one of the many factors that go to make the Bates Steel Mule unusually economical in fuel.

This feature, combined with the unit construction, Timken roller bearings, hardened cut gears running in oil and heavy duty valve-in-head kerosene motor, contributes to the great efficiency of this tractor.

*We want the best dealer in each community. If you are that man we have an attractive proposition for you.*

**JOLIET OIL TRACTOR CO.**  
327 Jackson Street Joliet, Illinois



**~The most efficient  
tractor in America~**



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

229 West 29th St., New York City. 'Phone Bryant 8760  
PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

Denver Holds a Merchandising Show.....	10
Re-Topped Used Cars Pay Profit.....	14
Stay with the Main Caravan.....	16
Three Tractor Stories of Which This Is the Last .....	17
Why the Man Who Has Sold Tractors Should Know Them—3 .....	17
The Law .....	19
Sell Yourself to Your City.....	20
Better Mechanics .....	22
Repairshop Shortcuts .....	24
Editorial Observation .....	26
Letters from Readers .....	27
Scientific Construction .....	29
Automotive Equipment .....	31
Hitch Yourself to National Advertising.....	32
Regular News Department.....	33
Coming Events .....	44
Classification Tables .....	45

Advertisers' Index on Pages 128-129

# "NORMA" PRECISION BALL BEARINGS

(PATENTED)



The difference between success and failure, in a machine, is simply the difference between the service needed and the service rendered. A sacrifice of any detail which can measurably contribute to service-rendering capacity, is simply an invitation to failure. There can never be a compromise on quality.

Experience of years has proved that the cars, trucks, tractors, power boats and airplanes that most uniformly render a service adequate to the needs of the moment are those carrying "NORMA" equipped ignition apparatus and lighting generators.

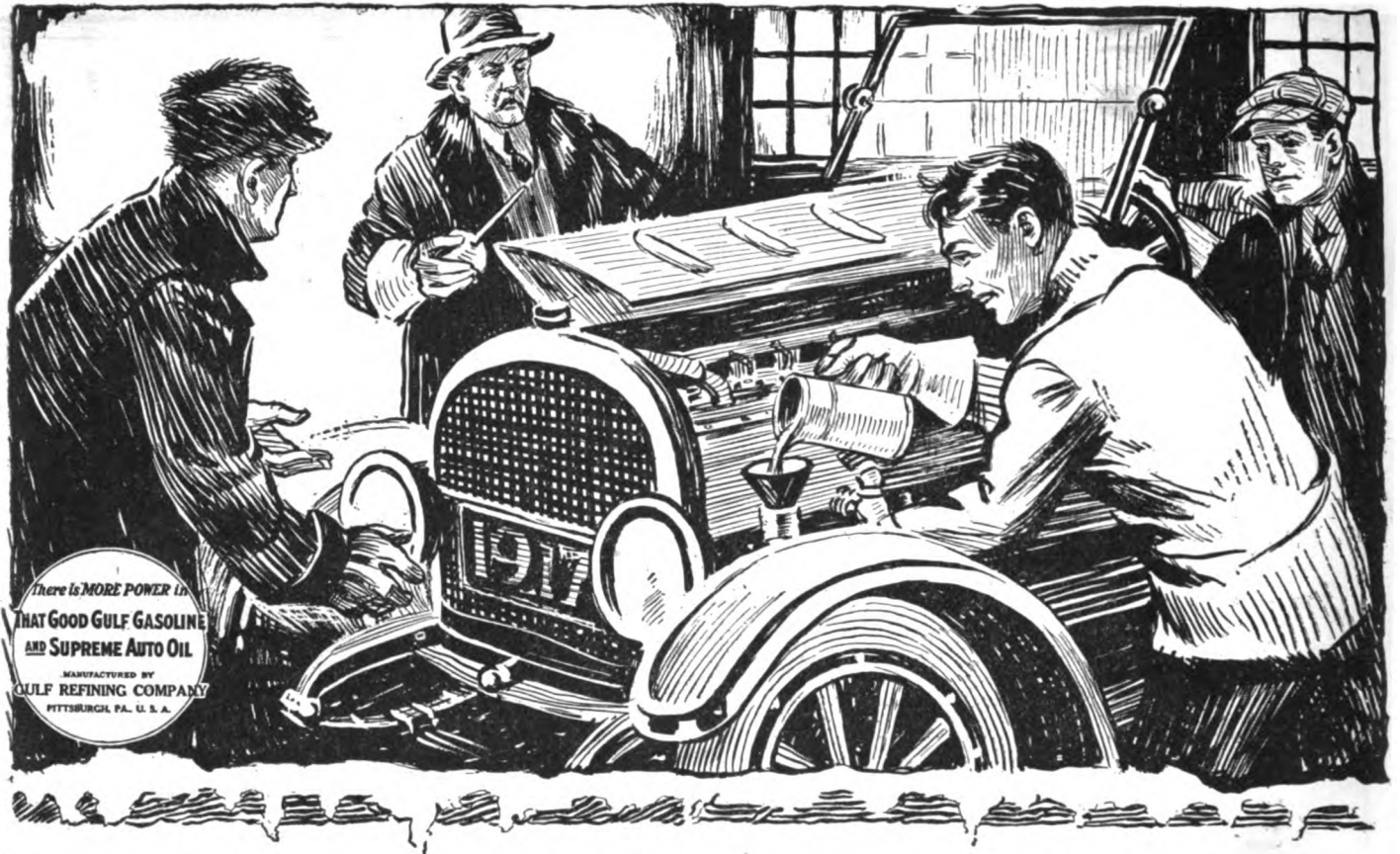
*Be SURE—See That Your Electrical Apparatus is "NORMA" Equipped*

**THE NORMA COMPANY OF AMERICA**  
1790 BROADWAY NEW YORK

*Ball, Roller, Thrust and Combination Bearings*







## Much Trouble

may be avoided by correct lubrication. Carbon, the greatest detriment to engine efficiency, may be minimized by the proper choice of lubricants. For instance---

## Supreme Auto Oil

being manufactured from Asphalt Base Crude, leaves less carbon, as it contains no paraffine to gum and stick the free carbon. At the same time it affords perfect lubrication.

# GULF REFINING COMPANY

General Sales Offices:

**PITTSBURGH, PA.**

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New York  
Atlanta

Philadelphia  
New Orleans

Boston  
Houston



# NEXT WEEK!

## THE ANNUAL

# Summer

# Merchandising

# Number

It will be of exceptional value to manufacturers who want their merchandise story presented effectively to the liveliest and best dealers, jobbers and garage owners throughout the United States.

Last advertising forms close Monday evening, April 14—next Monday.

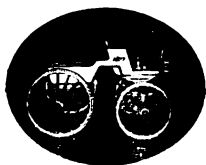
Embrace the opportunity this issue offers. Send copy now—NOW!



239 West 39th Street, New York City



# Selden Trucks



1877 - 1919

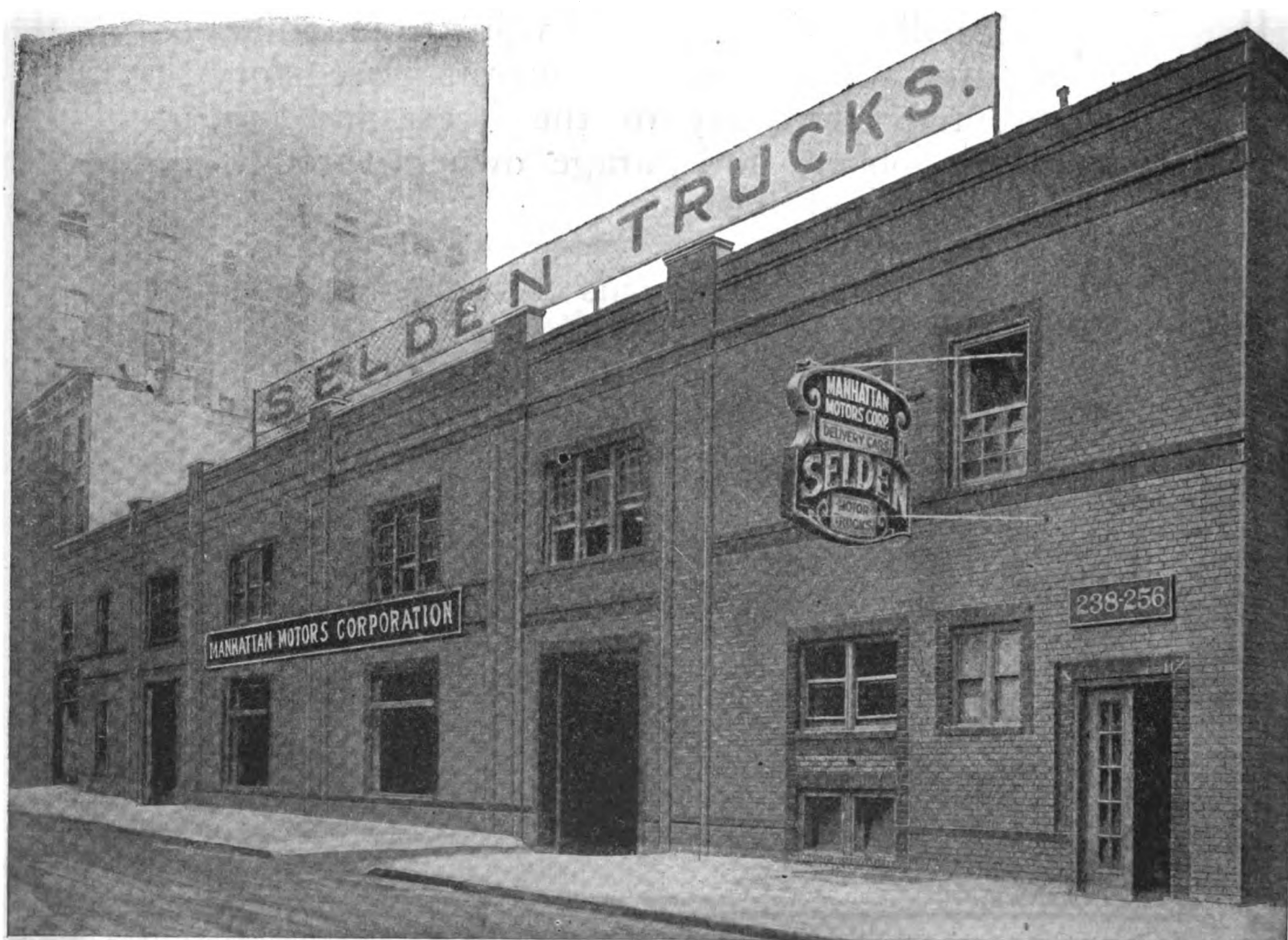
The first gasoline motor  
propelled road wagon  
was a Selden in 1877.

The value of the Selden Dealer Franchise is well expressed by the character of Selden Dealers. Some of the largest and highest rated Distributors of Motor Trucks in the United States are Selden Dealers.

**MANHATTAN MOTORS CORPORATION**  
NEW YORK CITY

*for instance*

**SELDEN TRUCK SALES COMPANY**  
ROCHESTER, N. Y., U. S. A.



When writing advertisers please mention Motor World—it identifies you



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

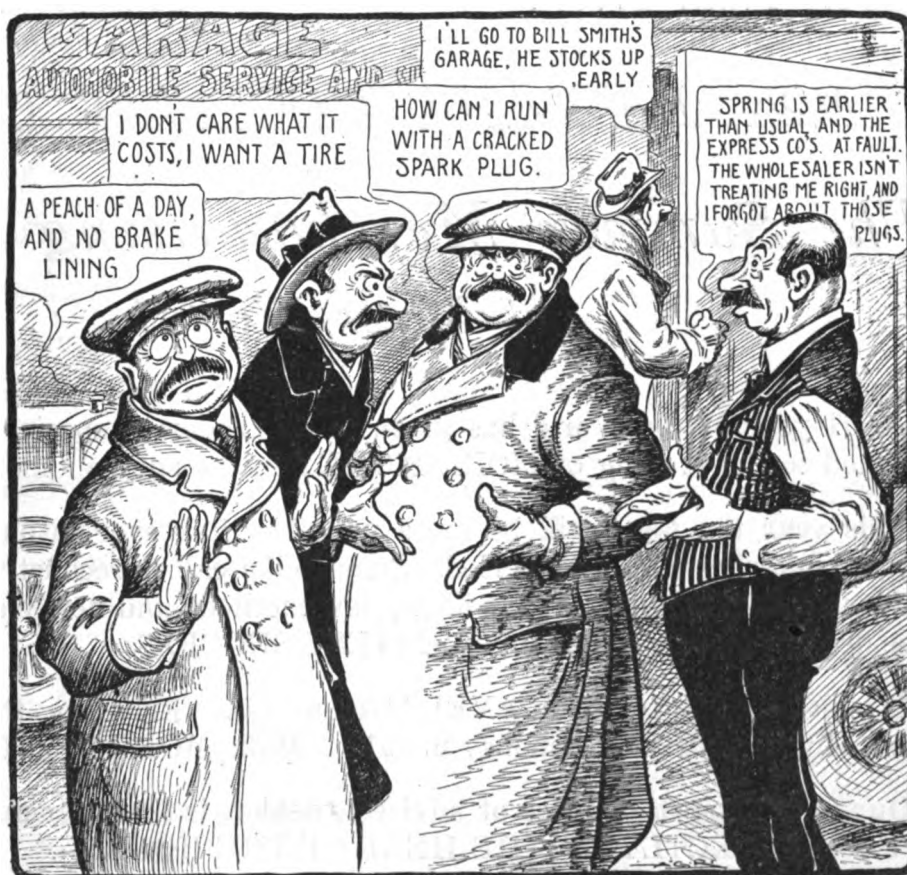
Vol. LIX

New York, U. S. A., Wednesday, April 9, 1919

No. 2

The  
Weather  
Man  
Will  
Get  
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If  
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Don't  
Watch  
Out

Read  
The  
Next  
Two  
Pages



Reprinted from "Auto Links," the House Organ  
of the Canadian Fairbanks-Morse Co., Montreal



# NEXT WEEK!

## Watch for It!

### *Get It and Save It!*

Bigger Than Ever!

*Better Than Ever!*

MORE VALUABLE THAN EVER TO YOU!

## *The Summer Merchandising Number of Motor World!*

**E**ACH year Motor World has given to its readers a special issue in April devoted to the making of **MORE MONEY** in the summer months.

This year the issue will be more valuable than ever to our readers because they are entering on a new period. Some folks call it reconstruction, but, whatever it is called, it requires new ideas, new methods and new plans on the part of those dealers who would attain **GREATEST SUCCESS**.

It is not enough to attain **AVERAGE** success. Strive for the greatest. Be a leader in your line. Make money in 1919. Make **MORE** in 1920.

Our most important piece of advice to dealers is that they make sure this number comes **DIRECTLY TO THE HEAD OF THE HOUSE**.

And when you get it **KEEP IT**.

One of the many reasons is that this number will carry with it a special colored supplement 20 inches high and 40 inches long, showing 25 forms that are used in the flat rate repairing system of a big dealer. You will need this supplement to understand the story—and the story may mean hundreds or thousands of dollars to you.

The story itself is so detailed and understandably written that it takes up considerable space and will run through several of the issues following the Summer



**Merchandising Number.** Save this issue, the supplement and the following installments of the story.

And then there will be other special features. You who have read Motor World for any length of time know beforehand how valuable to you these will be. Every one of them will help you make **MORE MONEY** this summer and next year.

The features will tell of the **NEW** ways that you must use to achieve greatest success and make **MORE MONEY**.

There will be features devoted to new car sales, truck sales, tractor sales, used car trading and selling, automotive equipment selling, garage operation, window display, price-cutting, accounting and system, and many other things.

In this number will be 250 or more ideas gathered from successful men in **YOUR** line, telling you how they are making **MORE MONEY** this year—and next year. These ideas tell how dealers are meeting the sales arguments of prospects this spring, when many prospects expect prices to fall.

There are lots of things in this number.

You'll need all of them.

So watch for the number.

Don't let it get by you.

And if you want an extra copy **WIRE NOW** because the stock of Motor World's special numbers is always soon exhausted. They don't last long.

On this Flat Rate for Repairs story alone you should have copies for yourself, your service manager and several others in your organization. In fact, quite a few people in your organization should be getting Motor World **EVERY WEEK** because of the greater value they can give to you as employees.

How many?

**WIRE.**

# THE ANNUAL

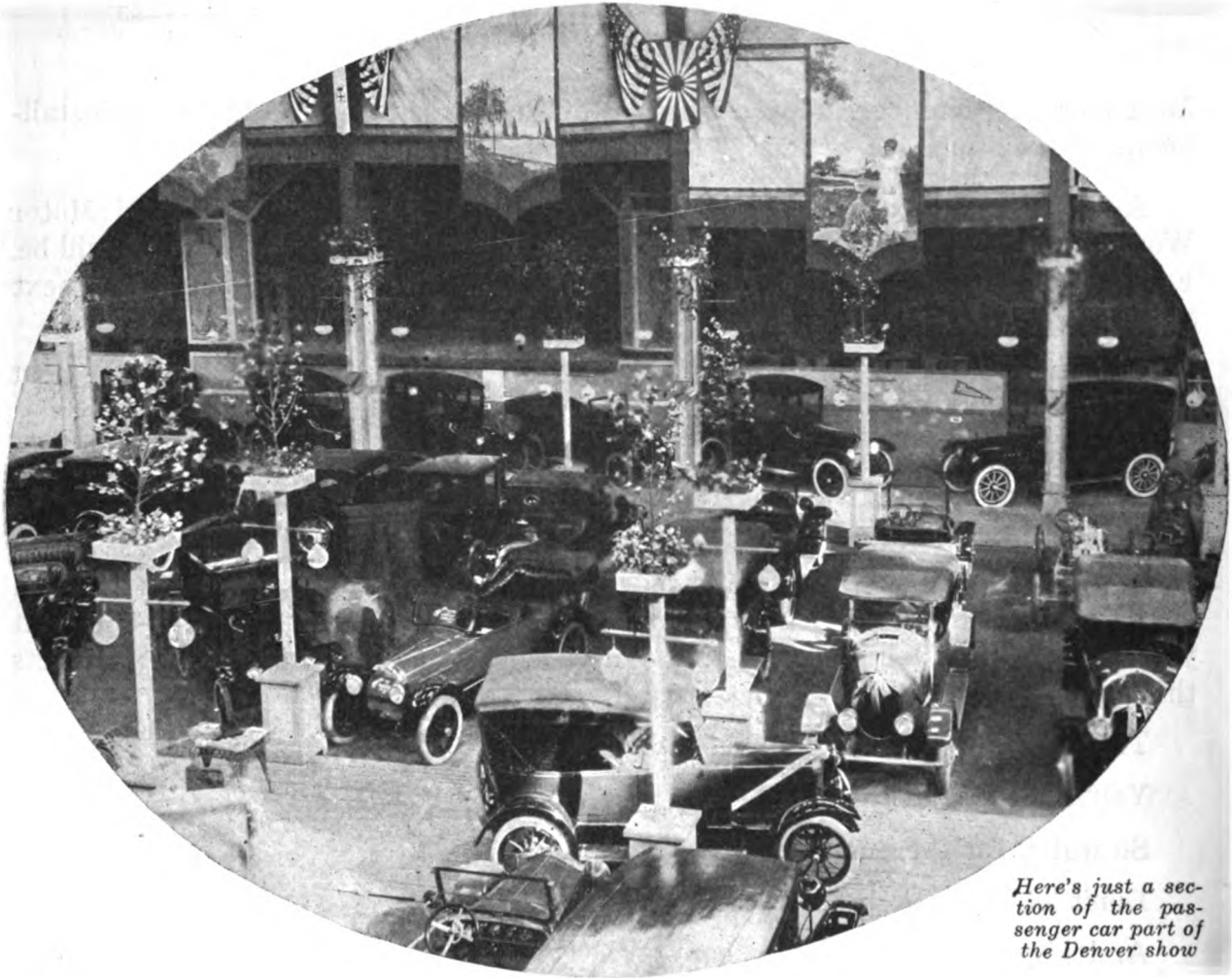
## *Summer Merchandising Number*

### of Motor World!

**NEXT WEEK !**

*Watch for it !*





Here's just a section of the passenger car part of the Denver show

# Denver Holds a Merchandising Show

*Cars, Trucks and Equipment Displayed in a Way to Create the Urge to Buy*

**D**ENVER, April 2—The Denver Automobile Trades Association's automotive show opened last night in the Stockyards Stadium with an attendance of 10,000 persons. A total attendance of at least 50,000 is predicted for the 5-day event, with an estimate of 10,000 or more visitors from Colorado districts outside of Denver and from New Mexico, Wyoming, Utah, western Nebraska, western Kansas and perhaps even more distant territory. From the standpoints of enthusiasm among dealers and salesmen and evidences of prospective buying interest on the public's part, eastern factory representatives declare that the big Rocky Mountain event promises to equal any of this year's shows.

Thirty-five passenger car distributors are showing fifty makes of cars, and forty-six makes of trucks, tractors, truck bodies and trailers are displayed by thirty-eight dealers, and there are forty-eight accessory booths covering a wide range of car and shop equipment. In ad-

dition, there is a large exhibit of farm implements, sheltered by a canvas canopy, on a triangular piece of ground between the Stadium and the large horse-show building housing the truck exhibit and part of the tractor display. The rest of the tractor exhibits are along the circular wall of the giant Stadium, which has passenger cars exclusively in the center, with a circle of accessory booths bordering the car space and broken by four entrances to the arena portion. The exhibits in the two buildings occupy more than 50,000 square feet of floor space, which is practically three times the space in the Municipal Auditorium, where former motor shows were held.

## De Palma Makes a Speech

A feature of last night's program was a short talk on the automotive industries by Ralph De Palma, who is here to give a three-mile exhibition drive in his airplane-engined Packard.

The value of maintaining separate

sales organizations for trucks or tractors is being emphasized by the show visitors' demands for specialists to answer questions regarding the various exhibits, distributors state. Of Denver's three dozen truck distributors, eleven handle trucks exclusively, while about half of the combination passenger car and truck distributors have separate sales forces for trucks. Ten of the city's thirty tractor distributors handle tractors exclusively, and about half of those selling both tractors and cars maintain separate organizations. In the tractor field, however, there is a greater tendency to combine tractors with general farm implements. The separate organization plan is also followed by perhaps 50 per cent of the leading car dealers that sell farm lighting systems, and the plan is gaining favor in connection with all these substantial branches of the motor industry.

The show decorations include a wall circle of paintings showing varied vistas of Colorado's gorgeous mountain scenery,



## Some Views of Denver's Show

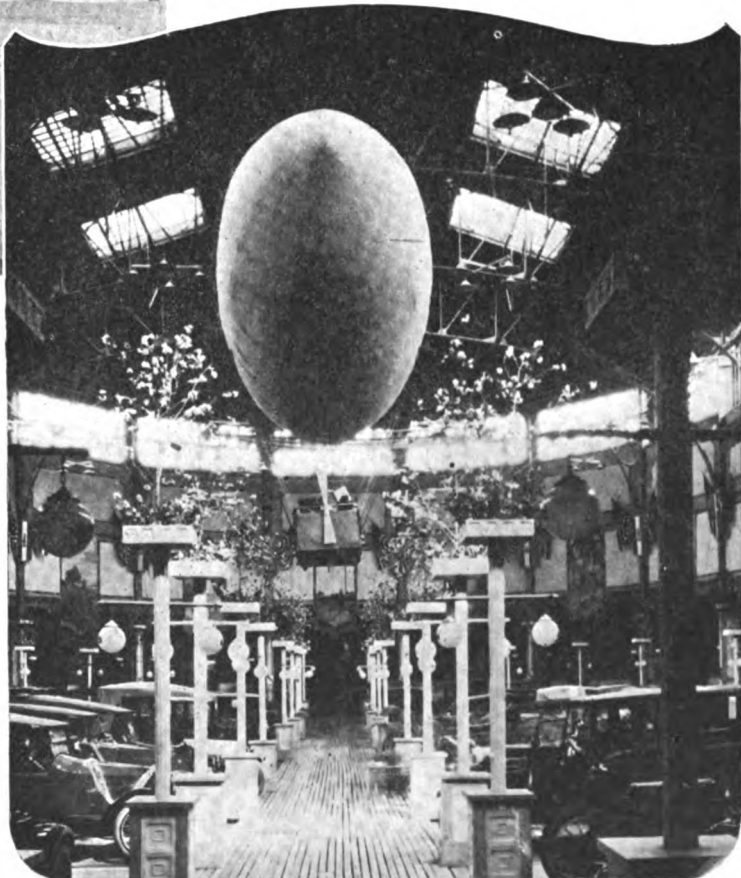
*This exhibit gives a good idea of the arrangement of the equipment booths at the Denver show. Each was practically a separate store by itself where customers could enter and make their purchases*



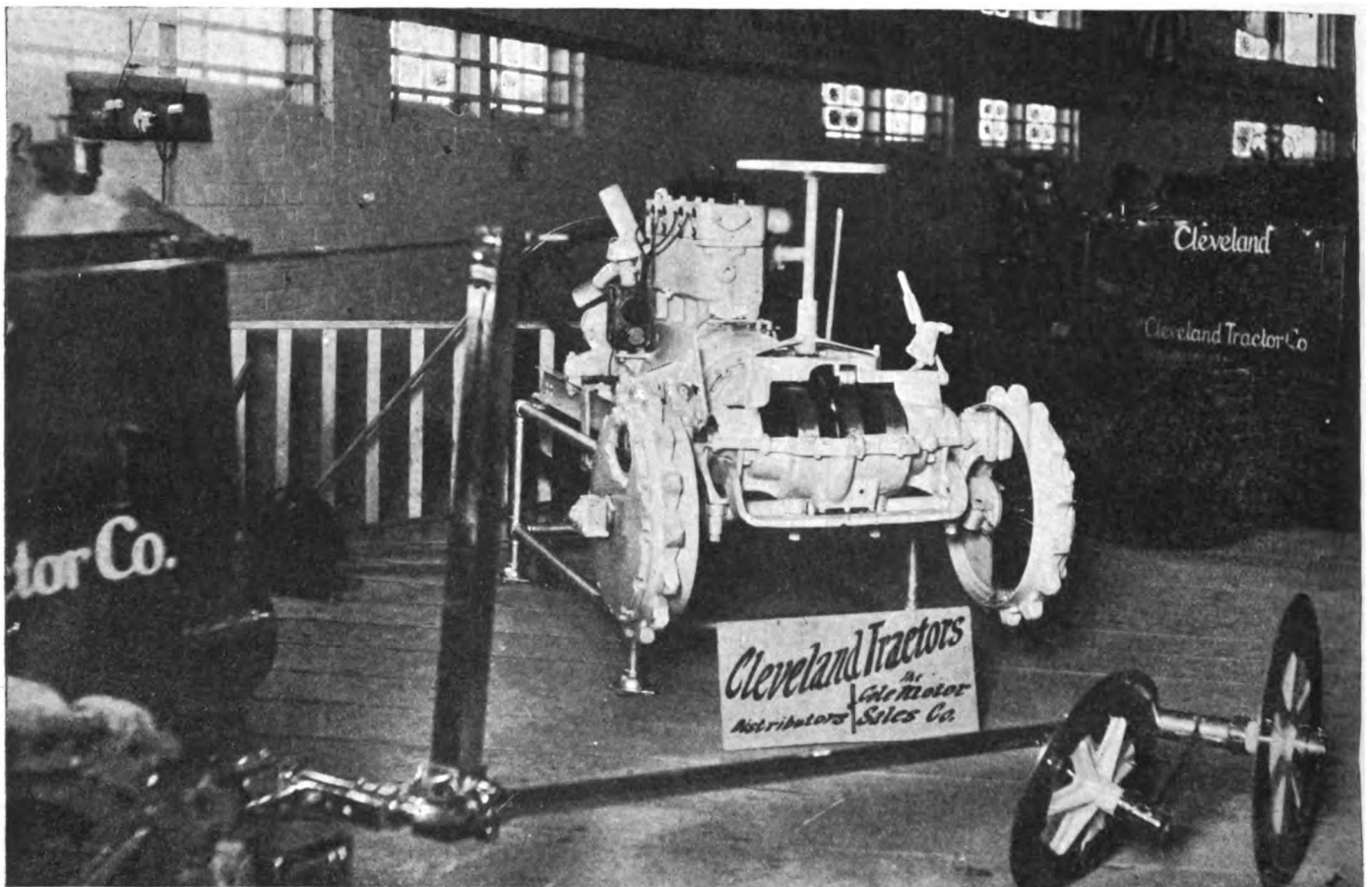
*Denver dealers carried the automotive idea almost to the limit in their show. They not only exhibited a huge dirigible balloon, but they made the balloon pay its way by carrying the musicians in its swinging car. Incidentally, this view gives a good idea of the decorations at the show*



*Left—This exhibit shows an attractive method of displaying tires, which always are difficult to display in an attractive manner*

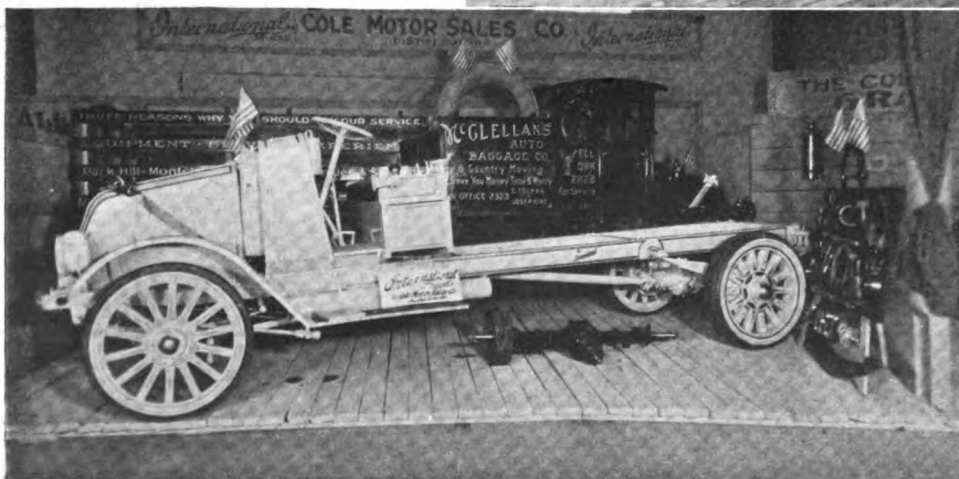
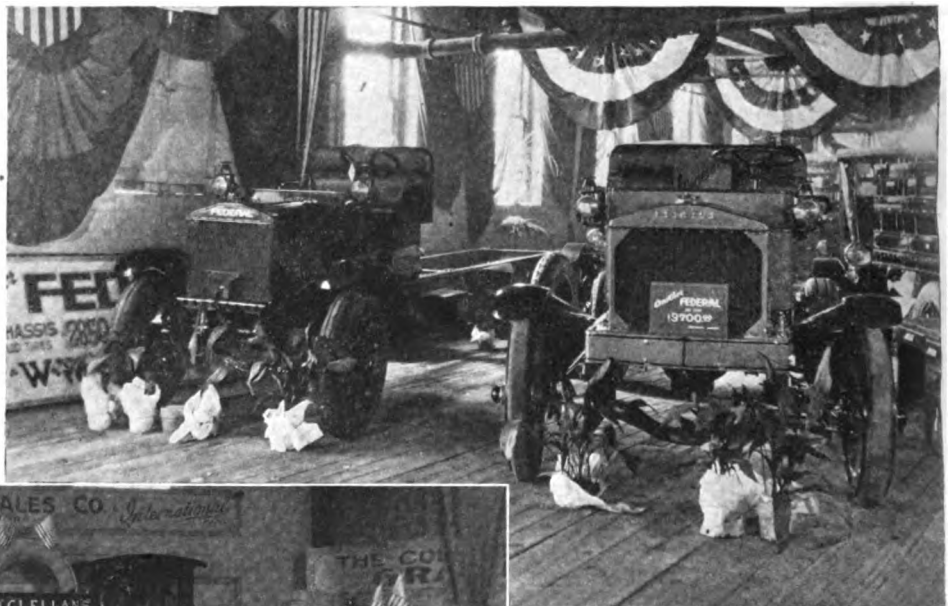






*One of the exhibits at the Denver show was a skeleton of a Cleveland tractor to show prospective purchasers the design and construction of the machine*

*Right—Potted flowers helped to make the Federal truck exhibit attractive and made it something more than a mere display of so much machinery*



*Left—The Cole Motor Sales Co., which handles the International truck, had a chassis specially painted and used this as the focal point in a well arranged exhibit*



panels of tractor plowing and general farming, mining, stock-raising and other industrial scenes, with the state's fruit industry and the spirit of springtime, with its invitation to motor, given combination expression by shrubs bearing peach blossoms throughout the arena. The car names are shown on lamp globes, and indirect lighting is used throughout. A huge dirigible balloon, suspended from the Stadium's giant steel girders, has a bandstand swinging below, while ballet dancers give a butterfly-form dancing exhibit swinging on steel cables fastened to the girders.

The vast development possibilities in the four states comprising the main part of the Rocky Mountain motor distributing territory form a substantial foundation for the abundance of enthusiasm demonstrated in connection with the Denver Automotive Show. Direct sales and prospective sales are also playing a strong part to keep this enthusiasm at a high pitch.

These four States—Colorado, New Mexico, Wyoming and Utah—form an agricultural, stock-raising, mining, industrial and tourist empire of 405,939 square miles, with a present population of 2,045,000. When city dwellers stop to think that this immense territory of rich resources contains less than half as many people as New York City, they will find an excellent stimulus to start their imagination working on the subject of the development possibilities that have gained such a powerful grip upon tradesmen in all branches of the motor car industry.

#### Tractors Are Oversold

A specific illustration of the trade outlook is the practically unanimous report of Denver's thirty tractor distributors—"Oversold and hoping desperately for that factory promise of increased production to make good by July." Tractors are making tremendous progress throughout this territory, especially in the vast areas of dry-farming prairies being developed in all four states. Colonization plans now under way are expected to give further stimulus to this particular industry also, through increasing the number of settlers greatly in the dry-farming regions. And Western Nebraska, Western Kansas and Northwestern Texas, which are also included in the territory of several distributors here, are becoming more and more tractor cultivated.

The only state furnishing an official record of its number of tractors is New Mexico, which reports 341 of the machines in use there, with favorable prospects for a substantial increase this year. The New Mexico legislature recently passed an act for a Soldier Settlement Board, and colonization is looked for on a large scale. The State now has 360,000 people.

Substantial gains are being made in motor car registration in the entire Rocky Mountain territory, with an especially good showing thus far this year, as compared with the same period of 1918, while extensive highway improvement projects and a rapid development



*This gives an idea of the manner of arranging the equipment booths at the Denver show*

of the highways motor transport industry insure a steady advance in truck, passenger car and accessory trade.

There is little wonder that nearly 2000 dealers are attending the Automotive Show this week and expressing their hilarity through dinners, luncheons, banquets, better-business conferences—and good-sized orders to prove their faith in prosperity as a big item in reconstruction enterprises throughout the rugged Rocky Mountain region.

#### These Men Put It Over

The association's directorate committee in charge of the big event are: Chairman, Thomas M. Ray, Miller-Ray Co.; A. C. Hicks, Mountain Motors Co.; Arthur Heiser, Heiser Bros.; Charles C. Collins, National Rubber Supply Co.; L. E. Kelton, L. E. Kelton Motor Co.; John W. Foster, Foster Auto Supply Co.; E. C. Edson, Auto Equipment Co.; A. M. McCarty, McCarty-Sherman Auto Co.; and S. E. Norton, Norton-Buick Auto Co. Mr. Norton is president of the trades body. The general manager of the show is Harrison Goldsmith, secretary and business manager of the association.

From the standpoint of dealers' attendance, the show is far ahead of any event of its kind ever held in this territory. About 2000 dealers are taking in the show, according to Manager Goldsmith, and 600 to 800 are expected at a bigger-business banquet to-night in the Albany Hotel.

An extensive drive-away business is counted upon by exhibiting distributors, on part of both dealers and customers from a large part of the territory.

One feature attracting considerable attention is the wearing of dress suits by practically all the salesmen representing the fifty passenger cars shown.

#### Former Ford Assistant Chief Engineer Allied with Chief

DETROIT, April 5—Charles Mongana, Jr., who resigned as junior assistant chief engineer of the Ford Motor Co. this week, has associated himself with his former chief, C. Harold Wills, who resigned his position as chief engineer of the company two weeks ago. It is said that Mr. Wills left the Ford organization to bring out a new car. He will neither confirm nor deny this report, but states that he will remain in the automotive business. He has opened an office in the Book Building. Mr. Mongana was with the company for seven years, and during the war was in charge of its Liberty engine operations.

A. M. Wible, who succeeds C. Mongana at the Ford plant, has been connected with the Ford engineering department for some time.

#### American Bosch Adds to Staff

SPRINGFIELD, MASS., April 7—Additions and changes have taken place in the staff of the American Bosch Magneto Corp. W. G. Brown has been transferred from the New York branch to become branch manager of the Chicago branch. T. C. Miller, formerly assistant branch manager at Detroit, assumes the position of branch manager at New York. Harold A. Wilson, formerly of the Diamond State Fibre Co., has joined the organization as assistant branch manager at Chicago. A. C. Hyser, who was in charge of the service department of the Willard Storage Battery Co., goes to Detroit to succeed T. C. Miller, and Oliver S. Stanley, who has been the assistant manager of the St. George Paper Co., Norwalk, Conn., has become assistant manager at New York.



A STORY OF THE NEW BUSINESS—

# Re-Topped Used Cars Pay Profit

## Tate's Wartime Effort Proves the Foundation for Reconstruction Volume

**E**VEN the dictionaries disagree on the definition of a word, so that you have to state your authority if you are very particular about what a certain sentence means.

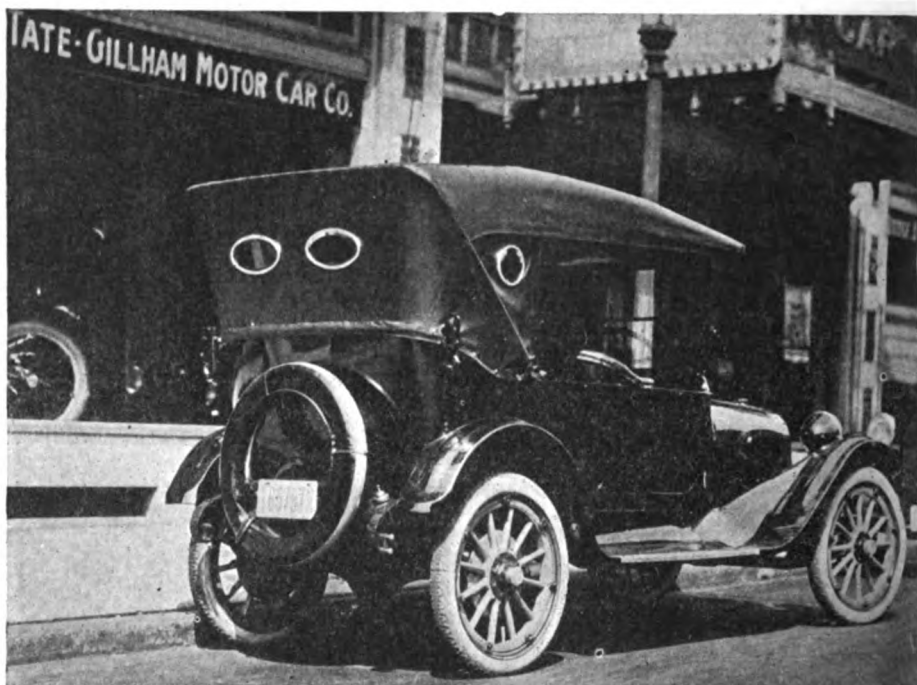
So, how could you expect men to agree about as big a thing as the war. I even heard a man express a doubt the other day that the Americans won it. He never will again, for a big black man, with four wound stripes on his sleeve, said: "Well if they didn't, us Buffalos did, so you have just one more guess." The black man was so much in earnest that the speaker reversed his decision.

This, of course, has nothing to do with a story about a motor car top department. It merely goes to show how differently various men viewed war business while the conflict was going on and the various conservation bureaus at Washington were writing bulletins about things that already had been covered by Fred Vesper's committee in its suggestions for conserving man power and materials and still keeping on in business.

Frank R. Tate, president of the Tate-Gillham Motor Car Co., of St. Louis, was an earnest student of these bulletins. Also, he read much of the advice offered as to methods of keeping in business and of coming out of the war as a business victor.

The conservation bulletins did not mean much to Tate. He was one of those who read the Dodge Bros. service plan literally from the first, so he could not dispense with free service because he hadn't any.

He did not want to go into other lines of endeavor, because he felt that handling the Dodge cars in a town the size of St. Louis was a man's size job. Also he was ambitious that his Dodge car owners should be as content as possible during the war. He knew that most of them needed their Dodge cars in their business.



*This was a badly used up Dodge that was put through the Tate-Gillham renovating shop—new top, new curtains, body polished, wheels and under-work painted. These cars bring high prices*

The answer, as Tate reached it, was complete service and renewed cars. This brought him to the top question.

Tate already had a fine service shop and he was certain he could keep the cars running as long as the parts stock lasted. He had a paint shop, but he had no way of renewing the tops, and tops will in time wear out. So the top department was born.

And it is a real top department. He was, in the buggy business at one time, and the top business was not entirely new to him. He knew the requirements and he capitalized this knowledge by getting hold of three sewing machines and building quarters necessary for these machines and nineteen trimmers.

He gave much attention to the construction of this shop. It is bright, light, well ventilated and in every way modern. There was an idea behind this. Tate knew that top workers are given, at least a part of them, to drifting. He wanted to stop the labor turnover before

it began, as it was likely to be heavy in a new shop. He succeeded. His shop is so comfortable and attractive that he has managed to hold his workers to a very high average.

Then he selected his top pattern. It was different from any other top running on St. Louis streets. The windows are the most noticeable of the departures from regular lines. They make a Tate shop car a traveling announcement that he is doing something different. Then he worked out some tops for the cars in his used car department. He worked out his prices, and when he had everything running smoothly, he sent the following announcement to the Dodge car owners on his books:

**TO ALL DODGE BROTHERS CAR OWNERS**

*We have added a top and upholstering department to our business and are prepared to handle all repairs, recover tops, as well as make any style of curtains you may want to rejuvenate or improve the appearance of your car. We are using a high grade rubber fabricate material.*



We can recover touring car tops with our **SUPERIOR STOCK** for \$32.50, plus \$26.50 if new curtains are wanted.

We can supply you with our own design of winter curtains, that open with the door, for \$32.50.

We can supply you with plate glass windows in the back curtains and back quarters for \$4.00 each, put in.

We are making a great many Gypsy type rear curtains, which cover part of the back quarters, at an additional expense of \$2.50 over the regular back curtains.

These prices are for recovering and curtains only where we use your old bows and sockets.

Prices on roadsters for recovering and for curtains is \$10.00 less than above quoted prices on touring cars.

We have a high grade force of mechanics, are in a position to do your work promptly, and earnestly solicit your business for this class of work. Yours very truly, **TATE-GILLHAM MOTOR CAR CO.**

Of course results count. Tate says that he is more than pleased—he is surprised at the results. His plans contemplated a scarcity of cars. But the coming of new cars has not checked the work in his top department. His shop has been booked ahead since that letter went out.

Here is another way of stating it:

The writer and a newspaper companion were walking down the street when the newspaper writer asked:

"When did the Dodge change the style of their tops?"

"They have not changed," was the answer.

"Why, sure they have. Look here," and he pointed to three Dodge cars in a row, each with the oval windows.

"But they are not new cars," I answered and pointed to the license numbers, which indicated that the owners

had had them for several years and had renewed for the same number, a habit St. Louis folk have. Also the chassis on one car was undeniably much used.

"That is a Tate top," it was then explained.

It can be added that a part of the deception was due to the good work of the Tate-Gillham body polishing department, which is a part of the renewal plant.

The custom business for the shop department is, of course, the spectacular part of this shop, but the used car department comes in for a great deal of benefit. Tate sells as few as possible of other makes than Dodge cars in his used car department. He does not encourage other trades, but he does like to trade in Dodge cars.

You all know how nearly junk is a car with a torn and mutilated top, dirty upholstery and such damage, although the engine may be good. Since the top shop was opened these cars have been no problem at all for the Tate-Gillham Company. Often the bows and sockets of the worst looking top are perfectly good.

You know the cost of polishing a body and painting the wheels and running gears. The cost of a new top you can judge from the retail prices already mentioned. The car, when this work is done, will bring the top price of the used car market, which at present is about \$1,000 for a Dodge. This is provided the engine is good.

The Tate-Gillham Used Car Department overhauls all engines in used cars

and renews such parts as need renewal. The buyer is given a guarantee that the car is in good, usable condition when it leaves the department. Is there any reason why a car should not jump in value from, say \$300, to \$1,000 by this treatment?

Really, now, did you ever stop to think how much a good needle worker could improve the price of a used car?

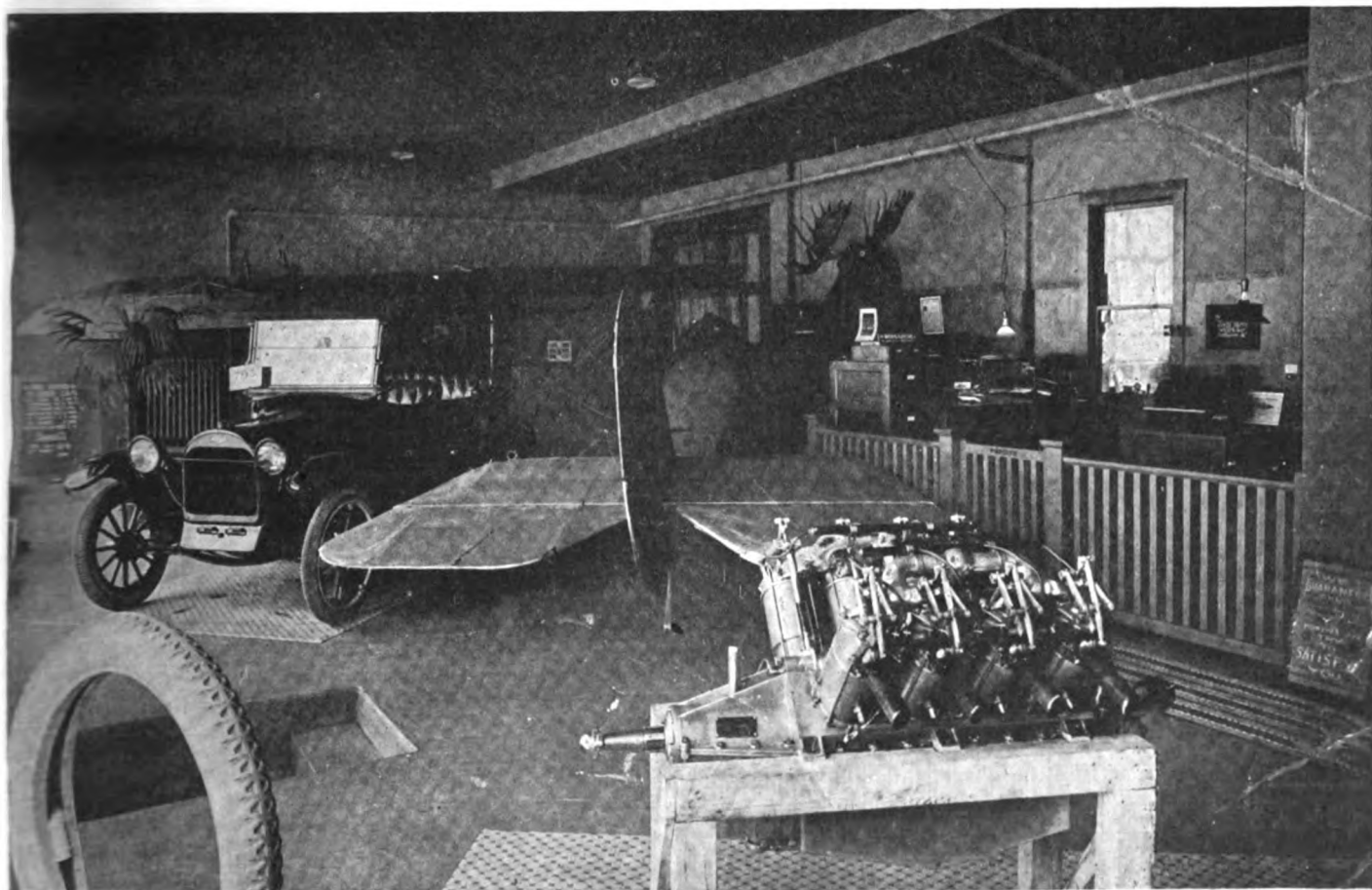
This top department has developed other fields for itself. Before it was opened it was necessary to send all cars damaged in transit from the showrooms to a top factory for repairs. Perhaps it was just a snag in the upholstery, or a torn eyelet. That car had to be driven across town and the man had to come back by street car and the car had to be left there from one to three days.

Perhaps a curtain was torn. A specially made curtain took its place, likely. Now these repairs are but incidental to the shop work. Often the repair is made in less time than it required to drive the car to the top shop. Tate estimates this saving—labor, bills incurred, time lost on cars, etc.—at \$1,000 a month.

"But will there not come a dull season in summer?" was asked.

"We have provided for that," said Tate.

"We are planning to make up to 1000 radiator covers and a stock of seat covers and the wedge-shaped cushions for sale in our automotive equipment section next winter. Really we have not had the opportunity to make up stock that we had hoped to have on sale before this."



*The A. G. McMann garage showroom has a distinctively automotive atmosphere*



# Stay with the Main Caravan

*Which Is Just a Word of Admonition to  
the Salesman Who Has to Handle  
Used Car Trades*

By RAY W. SHERMAN

**G**EORGIE ROPER, salesman tyro for C. J. Reilly, Inc., who had been selling Sennetts in and about Callawassa for some months, had encountered another trouble. Georgie had a habit of encountering troubles. Sometimes he thought the world had been set against him since the day he was born. And whenever anything went wrong—or he thought it was wrong—he always went to the source of authority and inspiration, none other than shiny-pated Cornelius J. Reilly himself.

"Can't seem to get anywhere!" Georgie asserted. "This used car business is all muddled up in my mind. I keep getting in wrong with Hayman all the time. I know he's the used car manager and is supposed to run his department, but I should think he could make a concession once in a while anyway. I KNOW some of these prices he makes on used cars are all out of reason."

"Are they? I'm glad to know that," said Reilly, and that's where Georgie made his mistake.

"Yes," said Georgie, thinking the boss was on his side with a wallop, "he's turned down some trades—or rather some prices—that would have meant nice, fat sales. Only this morning he turned one down on me, and that's what I want to talk to you about."

"Well, let's hear about it."

"It's this enclosed job to Professor Hastings, at the university. The old gentleman has a used Colt Four that he has been driving for a little over a year. He's been VERY careful with it. I don't believe he ever went over 20 miles an hour. He's strong for comfort, that boy. And he's so strong for comfort that he's just about clean sold on our sedan."

"You see"—Georgie hung one leg over the other knee and acquired still more confidence—"the old gentleman's got a wife who isn't always as well as she might be—although I think it's mostly notions on her part, and she's got the old man buffaloed." Here Georgie drew forth a cigarette, but didn't light it.

"You see," he continued, "we had a fairly open winter this winter, and the old gentleman drove quite a lot, but he didn't like the idea of all this chilly wind whistling through his Greek and Latin whiskers. Now he has sold himself—or rather I did it—on the idea of using a sedan for driving both summer and winter, and I've got the old lady all sewed

up on this Sennett job. She think's it's a bird."

"That's fine!" was Reilly's comment.

"But, here's the hitch." Georgie hitched forward, unwinding his legs. "The old man thinks his Colt car is worth \$900. He says the salesman who sold it to him told him it would depreciate very little and that with the care the old man would give it it probably never would wear out. It really IS in good condition. I think he would take \$750 or \$800, but all Hayman will allow is \$700. The old man hollered bloody murder and used a lot of good English words that I couldn't even understand when I tried to spring it on him—and THERE YOU ARE!"

"I KNOW the car will sell for seven-fifty or eight hundred as it is, but Hayman won't allow a cent more than seven hundred. How can a fellow sell cars under those conditions?" As emphasis on his finale Georgie slapped the desk and lost his cigarette.

"Well, well, that's too bad."

"I should say it is!" Georgie had Hayman in a tight hole, for wasn't the boss on Georgie's side? He was—NOT. But Georgie didn't know it.

"Hum-m-m," mused Reilly, stroking his bald pate in a manner he acquired when he had hair. "So we could get seven-fifty for this Colt car?"

"I KNOW it!" Georgie slapped the desk again.

"Could you sell it for seven-fifty?"

"I think I could." Georgie didn't slap the desk.

"Would you guarantee to get us seven-fifty for it?"

"Well—I don't know about that."

"In other words," Reilly snapped, "you're sure Hayman could get seven-fifty for it, but you are not at all sure that YOU could do it. Is that correct?"

"Yes—I guess so." And Georgie's reply was very weak.

At this point Reilly did a bit of hitching. He hitched around in his chair so that he looked squarely at Georgie—and was several inches nearer than he had been while doing the listening. His jaw also stuck out a bit, as it used to in the early days when sight drafts used to bother him some.

"Georgie," he said, "how much is the old man paying you to sell me his car?"

"Why—nothing!"

"Then why are you trying to sell it to me for such a good price?"

"I—ah—"

"Never mind, sonny," Reilly interrupted. "You needn't say any more. But I want to tell you ONE thing. You're either going to sell cars for this company and NOT for its customers or you can go to work for the customers. Get me?"

"We've had this trouble with salesmen since Noah bought a truck to tow the ark off Mount Ararat. Always and for years they have been trying to sell their prospects' old cars to the house. They've been on the wrong side of the fence. They've never realized what their duty is in business. They haven't realized the course that will bring them the greatest good."

"ONE thing I want to say. This Reilly caravan is traveling the big road to success, and that means that every individual in the outfit must be SOLD on the idea of what makes for the company's success. If Hayman says he can't give more than so much for a car it's YOUR job to go out and buy the old car for that price, PLUS THE SENNETT SEDAN. If you haven't sold the sedan so strongly that the old man is willing to buy it at any price, you haven't sold hard enough. If you come in here and talk to me as you have, you have let the prospect throw dust in your eyes. You are letting the prospect run the sale. You're a BUM of a salesman."

"Hayman is MAKING MONEY in that used car department. Tommy Trumbull is MAKING MONEY in the new car department. And every man in this organization is NOT selling cars; he is helping those two boys MAKE MONEY. When you go out of here you are going to help this company make money, build prestige and create for the future. And every move you make must serve those ends. Get that idea under your skull and you'll see some things in a different light."

"This Reilly caravan is going right down the big road to success. That means that every man in it must stay on the big road and not go skulking off through the bushes looking for a shortcut that isn't there. Get me?"

"Watch me," said Georgie, and he went out the door. Reilly surmised that the professor with the Greek and Latin whiskers was due for another call.



# Three Tractor Stories

## Of Which This Is the Last



W. S. ROBERTS

### True Service

**T**RUE service, in the last analysis, is that which keeps the tractor at work. This can be accomplished only by the man who knows what a tractor can do and how the tractor does it. He **MUST** know to the last screw.

If it is not the dealer, it must be some man he can trust and whom he pays well enough so that this man knows he is trusted. The future of the business is built on this tractor doing its work.

A dealer looking to the future will regard each tractor as his own and the man running it as his employee. He will be as anxious for that tractor to make money and do its work well as he is that his own machines shall run and make money for him.

He should regard himself as the foreman and paymaster of the tractors he has sold, with the one great object of keeping them busy earning money, so that each tractor owner will have a fat bank account and come in when the fall time comes and pay cash for a saw mill or a feed cutter, or an ensilage cutter, or come in next harvest and nonchalantly write a check for the full payment on a thresher. True Service is the best salesman on earth.—W. S. Roberts.

## 3—Why the Man Who Has Sold Tractors Should Know Them

**T**HE man who has sold a tractor or several tractors has risked his business reputation on the delivery of service on the part of those tractors. He has more at stake than any one of the tractor buyers," said W. S. Roberts, manager of the J. I. Case T. M. Co. branch in St.-Louis, as he began the third talk on "Why a dealer should know a tractor."

Previously he had discussed in

By Clyde Jennings

MOTOR WORLD "Why a Dealer Should Know Tractors Before He Decides upon Which Machine to Sell." Next he had talked on "Why a Dealer Should Know a Tractor to Sell It." Now he was considering the tractor as sold.

As to his leading statement, Roberts explained in this way:

"The man who bought that tractor

has the price, or perhaps only a cash payment, invested and he has at stake a day's plowing, which he can get done by hiring another tractor or some horses. At least, he has a look in on the future with only a visible loss.

"But the dealer is different. He has his future invested, as well as the price of these tractors. I do not envy the man who has sold implements or motor cars in a neighborhood for years and whose name is

**EDITOR'S NOTE.**—If you haven't read the other two, go back and read them. They are from the years of experience of W. S. Roberts, the Case man in St. Louis, who has lived tractors for so long that he can answer any question you might ask. He is giving MOTOR WORLD readers from the wealth of

his experience in this series of interviews by Clyde Jennings, one of MOTOR WORLD'S most entertaining writers. Read all of these stories. You owe it to yourself, even if you are on Broadway where tractors may never become a big seller. It is part of automotive education to know these things.



known throughout the county as a fair and square dealer, if his tractors go wrong.

"Say he has selected well and sold well; then there is nothing to the failure but a lack of knowledge. Perhaps his factory will come to his relief, but it takes time to get a factory man there. It is better to be entirely independent and know your own tractor, so that, in case of the small dealer, he can put it right himself or the larger dealer can look the job over and be sure his mechanics are doing it right.

"The dealer with a lot of tractors in the field is exactly in the position of a

master mechanic of a railroad, who has charge of the locomotives of the division. His chief business is to see that these locomotives keep running. It would be a great joke for a railroad to employ a bookkeeper to do that just because the bookkeeper could give an account of the amount of oil used. The accountant would

be a valuable adjunct to the master mechanic, and so it must be with the tractor dealer. *He must know these machines.*

"The dealer who is selling tractors in a new field or who is selling a new kind of tractor is in an especially precarious position. Often there is no local man who can give him any assistance. After the tractors have been running in that community for a season it will be different, because a lot of the tractor owners will become expert mechanics on these tractors with a year's experience.

"Some folks might say that it is useless to talk of virgin fields for tractors. But such is not the case. Lots of talk has been heard during the last few years about tractors, but the great field has not yet been disced, let alone plowed.

"The Case company statisticians last winter estimated that only 2¼ per cent of the tractor prospects had been sold and that there remained more than 5,850,000 prospects. So you see, there are many districts in this country where ignorance of tractors is excusable.

"But to get back to the tractor in the field, the new one that the dealer wants to see go to work. There was a time when tractors were bought chiefly for plowing. Some tractor owners then thought they were getting good service out of these machines when they got 30 days' actual work. But they insisted on having those 30 days when THEY wanted them. And they were right to expect this service. It was expensive service at that.

"But nowadays there are some farmers who get 200 days a year out of their tractors, but believe me, or ask any one who has had actual experience with the users of tractors, *they want each one of those days of use on the very day it is planned.*

"If the tractor buyer has planned to pull stumps to-day out of a field that has been standing idle for three years and he expects to plant a crop next

season, *he will contend that this work cannot be done on any day but to-day.*

"And if, for any reason, the tractor does not work he is extremely likely to begin calling your store before you are away from the breakfast table.

"The easiest and best way out of this is to go out and adjust that tractor. If you go yourself, the chances are that you will have a friend in that farmer forever, and, while you are there, you can let him in on a few tractor secrets and perhaps start him to thinking about buying a threshing machine, new plow, drill or one of the many things that he is likely to want."

## THE FIRST TWO WERE

**1—Why the Man Who Is Going to Sell Tractors Should Know Them.**

**2—Why the Man Who Is Selling Tractors Should Know Them.**

IF YOU HAVEN'T READ NOS. 1 AND 2, GO BACK AND READ THEM

The conversation drifted around to schools. Roberts said that these schools are doing a wonderful service for the tractor dealers in that they were opening to dealers and prospective dealers a way to study tractors, and at the same time they were making expert tractor mechanics out of a lot of farmers.

Also the schools spread a good deal of better farming knowledge, which incidentally helps to make tractor prospects. Formerly it was the Case plan to send three or four experts out to conduct the schools, with only a set program for addresses. The pupils, farmers and others interested were encouraged to ask questions, so that the schools would become "practical."

But it developed that one question led to another and, before any one realized it a talk of the fuel system would be twisted into a discussion of lubrication and the fuel talk never would be ended. So, for the last season, the Case schools have been conducted by the book. This book contains about 300 questions about the tractors and the 100 per cent pupil can answer them all. If a pupil asks a question out of order, he is told "That question is No. 37 on page 19, and we will get to it in time. Just mark it and we will give it some special attention."

The result, Roberts said, had been more systematic instruction, which means much better results. The laboratory work in these schools consists of new tractors and some old ones which are taken apart and put together again.

"How well do you think a dealer should know a tractor?" Roberts was asked.

"He should know all about it," said Roberts, "and should have experience in driving it. He should know it even better than he does a motor car, because most people who buy motor cars do not expect to repair them themselves. They expect to go to a service shop. But the farmer does not expect to do this. He

expects eventually to repair it himself.

"As to how much the Case company expects its dealers and owners to know about tractors is illustrated by the following questions in piston rings, which are those in our school book. Most men who have owned a motor car a couple of weeks and who have read two advertisements for special piston rings think they are experts. These questions show what the Case company thinks is piston ring knowledge:

### Pistons and Piston Rings

"1—How are pistons removed from motor?

"2—How is piston pin removed?

"3—How many rings are there?

"4—What are they for?

"5—When is it necessary to replace rings?

"6—How can a ring be removed from the piston without breaking?

"7—How are new rings fitted?

"8—How does the appearance of a ring

indicate if it has been leaking?

"9—What causes rings to stick and what are the effects?

"10—Why does a piston have more clearance when motor is cold and which end has the most?

"11—How would you determine when a piston needs to be replaced?

"12—In what condition are the grooves often found on an old piston?

"13—If there is much clearance between the ring and the groove what effect will it have?

"14—When a new ring is fitted to a cylinder what clearance must be allowed between the ends?

"15—How can the ring be faced properly to fit the groove?

"These nearly six million unsold tractor prospects are a mighty fertile field for cultivation and it is going to be a golden harvest for many tractor dealers. But it is like all other harvests. There may be a man here or there who will get the breaks and get through on little or no practical knowledge, *but the most of this trade is going to the men who know their business.*

"And, after all, these nearly 6,000,000 tractor prospects mean much more than that number multiplied by average tractor profits.

*"These same men buy motor cars.*

*"Most of them will buy motor trucks.*

*"All of them will buy plows, harrows and discing machines.*

*"A great number of them will want threshing machines, saw mills, ensilage cutters, feed cutters and heaven knows what.*

"We learned to think in big figures during the war, but it looks to me like the total sales to tractor dealers in the next generation would loom almost as large as some of the war sums.

**"CERTAINLY IT IS BIG ENOUGH TO MAKE IT WORTH WHILE FOR MEN TO STUDY TRACTORS."**



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### Return the Goods

Editor Motor World: I am going to ask about one thing concerning the garage lien law in New Jersey, and that is:

If I should have to take a car off the road or street for a bill for work or parts, and there were some goods in the car that did not belong to it, if the owner was not by, what am I to do with the goods if they are in the car? Suppose there were some goods that belonged to another person in the car? What about these?—Howard Apgar, Califon, N. J.

Answer—As a practical matter I suppose you might wait for the owner to appear and then turn the goods over to him, as you would hardly want to dump them in the street or subject yourself to a charge of wrongfully taking another person's property.

### Truck Manufacturer's Warranty

Editor Motor World: Will you kindly cite us a case and decision handed down by the Supreme Court with reference to the following:

We sold a new truck to a party giving him the Truck Manufacturers Warranty, a copy of which we are enclosing. No other guarantee have we given him. This party had another truck, and within one year of the time he purchased his truck from us we sold him supplies, accessories, repairs, etc. Besides doing work on both of his trucks, carrying his account, he paid us part of his account from time to time, always leaving a balance, until the last month he transacted business with us he owed us a balance of about \$250, which he has refused to pay us.

We have entered suit for collection. He has filed counter-claim against us for \$2,030, alleging our default in warranty enclosed, which is factory warranty, charging us back with the amount we have charged him for labor, accounts and supplies, \$1,030, also \$1,000 for time and expense lost by him.

We have seen several cases of this sort in the Motor World legal department, but are unable to locate any of them at this time. Would like to have a record of some Supreme Court decision on this matter.—Hall & Mansker Garage, Trinidad, Cal.

Answer—As you did not say for what reason your customer claims you are chargeable with breach of warranty, it is difficult to cite a case which might be of use to you. If you had said that

he claimed you were guilty of breach of warranty because the car was warranted to be suitable for use in some particular business or the like it would have been easy to cite a case.

The standard form of warranty is always rather amusing to lawyers, as it does not bind the manufacturer or dealer to do much of anything. As it contains a clause that "it is in lieu of all other warranties" expressed or implied, it would seem that you ought to win out without much difficulty. As you have used a factory form of warrant, why not write the factory and let them cite you all the cases which they tried out where that particular form of contract was involved?

### Tax on Motor Transportation of Passengers

Editor Motor World: I was told by a garageman in a neighboring town that the Government is collecting an 8 per cent war tax on all service car passenger fares collected since Nov. 1, 1917, together with 50 per cent penalty on taxes overdue.

Now, as far as I know, there has never been any notice of this law either in the daily newspapers or in the trade papers.

If there is such a law I am curious to know whether it is being enforced all over the country, and why we have never heard anything of it before.—R. A. Striegler.

Answer—Under the new revenue act passed in February it is provided:

A tax equivalent to 8 per cent of the amount paid for the transportation on or after such date of persons by rail or water or by any form of mechanical motor power on a regularly established line when in competition with carriers by rail or water from one point in the United States to another or to any point in Canada or Mexico where the ticket or order therefor is sold or issued in the United States not including the amount paid for commutation or season tickets for trips less than 30 miles or for transportation the fare for which does not exceed 42 cents: provided that where such water transportation lines are in competition between American ports with foreign water transportation lines from adjacent foreign ports, the tax imposed under this subdivision of amounts paid for water transportation between American ports shall not exceed the amount of the transportation tax to which such foreign water transportation lines are subjected by their government corresponding to this tax.

This act did not become effective until its passage in February, and is not retroactive.

### Cost of Liability Insurance Policy

Editor Motor World: We are engaged in a general automobile repairing business, doing all kinds of repairs to automobiles with the exception of vulcanizing. In our motor repairing department we employ from six to eight men. In order to cover our liability in testing our customers' cars after they have been repaired we have been carrying a general liability policy which is figured on the amount of money we spend during the year for our whole shop. You can readily see that this insurance means quite an item, and we feel that there must be some other form of policy which covers our particular needs. We cover men in our shop who know nothing about driving an automobile and never take one out of our shop.

The information we are anxious to obtain from you is just who is liable in case of accident while one of our mechanics is driving a customer's car in order to determine whether or not the work which he has done is satisfactory. We are of the opinion that as the owner is always responsible for his car, he would be responsible in this case, having given us permission to repair his car and test it. We also think that as a good many owners have their cars insured against accidents, the policies, according to the new laws, covering anyone driving their cars with their permission, it is unnecessary for us also to insure our mechanics while driving their cars.—Samuel Chadburn, 226 S. Broadway, Yonkers, N. Y.

Answer—The best way to save on insurance premiums, I have found from experience, is to let some insurance broker who is a competitor of the broker to whom you now give your insurance look over your policies and see if there is not some way in which he can save you money. Frequently a new broker can suggest things which will cut down the premium, while the broker who writes the insurance does not care to do so because by cutting down the premium his commission is likewise cut down. Of course, you are responsible for damages caused by men who demonstrate customers' cars, but there seems to be no good reason why men who do not drive customers' cars should be included in the payroll which is used as a basis for the premium.

The whole law of this matter is, in brief: If a man employed by you is engaged in the scope of his employment, you are responsible for his negligence.



*If You Would*

# Sell Yourself to Your City

*You Must First*

# Sell Your City to Yourself

That's What the Motor Trades in Des Moines Have Done and  
They Have That Civic Standing That Every  
City's Dealers Must Acquire

**H**OW a motor trades organization may become a real constructive power in the community not only to its own commercial advantage but as a *civic factor* has been demonstrated in the last two years by the Motor Trades Bureau of the Des Moines Chamber of Commerce.

A little more than two years ago the men in the industry in Des Moines were all going their own ways, *with little thought of a community spirit* and with no organization to centralize and cement their thoughts and activities in any other than purely business lines.

#### Membership Confined to Dealers

It is true that the Des Moines Automobile Dealers' Association had been in existence for several years, but its membership is confined exclusively to dealers and distributors and its principal object in life is the conduct of the annual motor show.

Then there was organized within the membership of the Chamber of Commerce a body known as the Council of Members, made up of representatives from fifty-five groups of business, professions and trades. The council meets weekly throughout the

year and serves as a clearing house and medium of expression for many of the activities undertaken by the Chamber.

The motor trades group was represented in the Council of Members, and from this organization has sprung the Motor Trades Bureau, which is now recognized by the Chamber as *one of the liveliest and most active of the eight bureaus making up the Chamber of Commerce.*

Voting membership in the bureau is based on the house membership, and at the present time there are sixty-nine houses holding active memberships. Any man in the trade who is a member of the Chamber of Commerce automatically becomes an individual member of the Motor Trades Bureau, and the organization covers every scope of the field in Des Moines.

Directors are elected at the annual meeting in January representing the various ramifications of the trade in Des Moines, and at present the directorate is made up of representatives of the following lines: Car dealers, taxicab owners, branch tire houses, retail tire dealers, automotive equipment, garages, battery stations gasoline and oil dealers, truck and tractors dealers, and used car dealers.

#### Bureau Full of "Go" from Start

The directors choose their own officers, a chairman, vice-chairman, secretary and assistant secretary. The chairman of

the bureau automatically becomes a director of the Chamber of Commerce.

*From the very start the bureau has been a live one.*

It has taken a prominent part in every patriotic campaign and movement of the war period. Des Moines has conducted her Liberty Bond and United War Work campaigns through three divisions of ten teams each, and in every one of the campaigns the motor trades have been represented with a team, with the chairman or vice-chairman as captain.

In each of the campaigns the motor trades team has *finished among the three leaders.* Bonds sold in the last campaign totaled \$366,000, and when it is considered that Des Moines has no motor car factories and that the trade is confined, generally speaking, to retail and distributing, such a showing is most satisfactory.

#### Bureau Helped Uncle Sam

In the actual matter of fact work of recruiting men for fighting the bureau played no small part. Early in the summer of 1917 officials of the War Department advised the Des Moines Chamber of Commerce that Des Moines was expected to furnish 500 men for the Iowa Ammunition Train. Not only were these men to be recruited from Iowa, but the recruiting was to be done in four days.

This wholesale job was handed over intact to the Motor Trades Bureau and a whirlwind campaign was put on by the bureau with bands, speeches and quiet personal work among the employees which resulted in the demands being met



and the organization completed within the time limit set by the War Department.

Late in the war the department again came to the bureau with a request for assistance in recruiting 1000 men for the motor transportation and tank corps, and with the same zeal which characterized the first campaign it was put over. For six weeks the Des Moines trade furnished daily to the Government recruiting officers two trained men from the garages and shops to assist in examining the applicants.

If the bureau had done nothing more than to create a feeling of good fellowship and a community interest among the men in the trade it would have been a success.

#### Monthly Dinners Attended by Leaders of Industry

The monthly membership dinners have brought such leaders as F. W. A. Vesper, E. E. Peake and Alfred Reeves to Des Moines, and these exemplars and exponents of a better day for the motor trade have had a lasting effect on the trade in Des Moines. Distributors rub shoulders with mechanics in these monthly dinners and a spirit of good fellowship prevails.

Another important work done by the bureau has been the protection of the rights of the motor trades. Through two sessions of the Iowa legislature the bureau has seen to it that laws affecting the trade were made foolproof and that in many cases foolish legislation was eliminated.

The repeal of the freak headlight law passed by the Iowa legislature is one of the specific instances of action on the part of the bureau. A test case was brought by members of the directory board in the district court, then carried to the Supreme Court, where the law was pronounced useless, and the present session of the legislature has seen the elimination of the freak clause which negated the law.

#### Motor Traffic Code Bureau's Work

The motor traffic code adopted by the Des Moines city council last year was fathered by the bureau, and, while it is not claimed to be an ideal code, it is such an improvement over previous conditions as to be considered a decided boon.

The bureau has fostered motor transportation and the return load, but conditions in Iowa have been such as not yet to have permitted any material success along this line. However, with the constructive road legislation which is expected at the present session of the Iowa legislature it is thought that before long motor transportation will be an established institution.

Good roads work is, of course, one of the all-important features of activity on the part of the bureau. Members of the directory board of the bureau are now represented on the roster of every trail and highway which touches Des Moines, and each of the highways is receiving constructive attention from the bureau as a whole.

### What the Des Moines Motor Trades Bureau Has Done in Two Years

- 1—Created a community spirit among the men in the industry and made the organization a civic factor.
- 2—Protected the rights of the motor car and allied industries.
- 3—Secured the adoption of a traffic code and a centralized taxicab station.
- 4—Established a clearing house for employment.
- 5—Fostered good roads legislation.
- 6—Issued weekly bulletins to members, summarizing bulletins of the N. A. D. A. and the Automobile Chamber of Commerce of the United States.
- 7—Established a tourists' information bureau.
- 8—Recruited 500 men for the Iowa ammunition train.
- 9—Assisted in recruiting 1000 men for the motor transportation and tank corps.
- 10—Held monthly membership meetings and weekly meetings of the directorate.

This good roads work has developed a secondary function for the Des Moines bureau which is claiming no small part of its time and attention. Iowa has no live state association of motor car dealers, and the organization of the local bureau has been so effective as to lead to suggestions from the local associations in many towns that the Des Moines bureau serve as a clearing house for the motor car interests of the state in the good roads and other legislation which is now before the Iowa legislature.

A number of these local associations are, by the way, the result of the work of the Des Moines bureau. The Chambers of Commerce of Sioux City, Mason City, Ottumwa, Marshalltown, Oskaloosa and Davenport now all have motor trades bureaus patterned after the Des Moines bureau, and in the organization of which officers of the Des Moines body took a constructive part. A much closer bond between the motor trades interests of the State is going to be one of the direct results of these various bureaus.

During the summer of 1918 the work of the bureau had become so heavy it was decided that a man was needed to devote his entire time to the interests of the trade in Des Moines. Ralph H. Faxon, general secretary of the Des Moines Chamber of Commerce, had since the inception of the motor trades bureau served as its secretary, and to his guiding genius much of the credit for the success of the bureau is due. But the general work of the chamber did not permit him to give the bureau more than a portion of his time, and at his suggestion Don T. Chamberlain was named assistant secretary and placed in the Chamber of Commerce office.

At the same time a closer link was formed between the Des Moines Automobile Dealers' Association and the bureau, and Chamberlain now serves as assistant secretary of both organizations.

Car dealers who are members of the Des Moines Automobile Dealers' Association pay annual dues of \$40 for membership in the bureau, and those who do

not belong to the dealers' association pay \$15 annually.

On Sept. 1 the bureau became self-supporting, and the 1919 budget of the Chamber of Commerce provides a neat sum for the use of the bureau.

With a man giving his entire time to the work the bureau was able to enter activities it could not attempt before. One of the things accomplished along this line is the weekly bulletin going to every member of the bureau. Bulletins from the N. A. D. A. are summarized and matters of importance to the trade are sent to the members in a more direct way than would otherwise be possible. The bulletin was particularly useful during the restricted condition of wartime.

#### Employment Clearing House

An employment clearing house is another function performed by the bureau. There is scarcely a week that a Des Moines repairshop or garage is not supplied with a man through the card index system on file in Mr. Chamberlain's office.

The bureau also maintains a very satisfactory tourists' information bureau, and has a small library of maps, trade papers and general information for tourists in a nook in the Chamber of Commerce rooms.

*The bureau has done two things:*

*It has sold Des Moines to the motor trades, and*

*It has sold the motor trades to Des Moines.*

#### St. Louis Battery Men Organize

ST. LOUIS, April 5—The St. Louis Battery Trade Association has been organized with eleven members. H. E. Spoeneman of the Panama Rubber & Equipment Co. is president; William Fuetterer of the Fuetterer Battery Service Co., vice-president; R. G. McCurdy of the Western Electric Co. and William E. Moerschell of the Moerschell Electric & Auto Supply Co., directors.



*A Department of*

# BETTER MECHANICS

No. 100

## *Repairs and Adjustments to the* Stromberg Model G Carbureter

**T**ROUBLE with any carbureter can usually be ascribed to one of the following causes:

- 1—Improper adjustment of the needle valve or nozzle.
- 2—Improper adjustment of the float.
- 3—Improper adjustment of the air valve.
- 4—Leaky float valve.
- 5—Leaky float.
- 6—Dirt or water in the chamber or around the needle valve.
- 7—Insufficient heating of the incoming air.

The Stromberg Model G is made in three sizes, 1, 1½ and 1¾ for ordinary use, and in two larger sizes, 1¾ and 2 in., for very large engines. The parts do not differ materially and the following operations apply to all models except where noted. The model numbers are G-1, G-2, G-3, G-4 and G-5 respectively.

### Adjusting the Low and High Speed Valves

1—The low speed adjustment is controlled by the brass nut located beneath the air-valve chamber and held in position by a spring actuated pawl. When the proper size nozzle is installed in the carbureter the low-speed air-valve spring should be adjusted (when the engine is stopped) so that the air valve just seats.

2—Start the engine.

3—Screw up the nut until the engine runs smoothly. This should require about four notches.

4—If the engine speeds up when the air valve is depressed slightly with the finger, this is an indication that the mixture is too rich and the nut should be turned back, *one notch at a time*, until depressing the air valve decreases the engine speed.

*The engine must be well warmed up when making this low-speed adjustment. The spark should be retarded half way and the hot-air attachment used.*

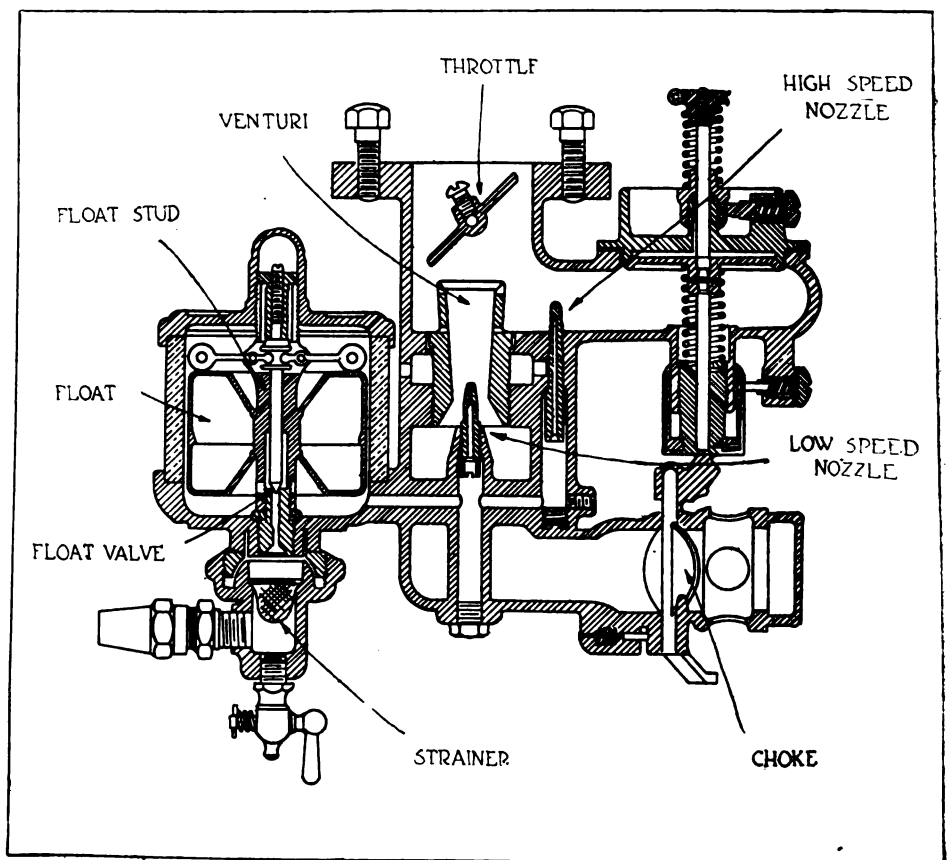
The high-speed nozzle does not come into action until the engine is running

BY J. HOWARD PILE

at comparatively high speed and with throttle almost wide open. At this speed the area of the venturi is not sufficient to allow all the air to pass and the vacuum becomes high enough to pull the high-speed valve open. It has to do this against the tension of the high-speed spring and therefore a uniform vacuum exists in all parts of the air chamber of

the carbureter, including the orifice of the auxiliary nozzle.

The top of the auxiliary nozzle is about 1 in. above the float level of the gasoline in the float chamber, and as it is impossible to lift the gasoline through this distance through such a small opening a small hole is drilled in the side of the auxiliary nozzle, coinciding with an air chamber having an outlet on the opposite side of the venturi. The vacuum at the top of this nozzle pulls a current of air up to the top of the nozzle, enabling the gasoline to be picked up and carried to the top, where it is vaporized.



Section through the Stromberg Model G carburetor



1—The high-speed air-valve spring should have 1/32-in. play on the air valve stem between the high-speed adjusting nut and the air-valve cap nut, this to be when the engine is not running.

2—Put the spark in the position for normal running.

3—If the engine backfires through the carburetor when the throttle is opened suddenly the mixture is too lean and the high-speed adjusting nut should be screwed down notch by notch until the engine stops backfiring.

4—If it is found impossible to make the engine backfire, no matter how lean the mixture is made, the rate of acceleration will show the proper mixture.

5—If the mixture is too rich the engine will be dead and slow and both engine and exhaust pipe will overheat at high speeds.

6—If the mixture is too lean, heating and lack of power will be evident.

7—To secure as near perfect a mixture as possible, the adjusting should be done with the car pulling a slight uniform grade. In such case care must be used not to change any of the other conditions, such as spark advance, as any change in this would make it almost impossible for the adjuster to arrive at a definite point.

#### Float Adjustments and Repairs

1—The distance from the top of the float chamber base to the height of the gasoline level in the glass float chamber (Model 3) should be 15/16 in. If the level is too high, the gasoline will flow over the top of the primary nozzle and cause flooding. If the level is too low, the engine will be hard to start, because cranking by hand or with the engine starter does not give sufficient vacuum to pull the gasoline up through the distance from the gasoline level to the orifice. The proper level of the gasoline is 1/32 in. below the top of the low-speed nozzle.

2—The dust cap over the float chamber has a small hole drilled in it to prevent an air trap in the float chamber which would either prevent gasoline from entering the chamber or would prevent its going out if it once got in. In very hot weather the pressure caused by expansion would force the gasoline out of the primary nozzle, and this would make the mixture too rich. This hole must be kept open and clear so that it will be able to perform the function for which it was put there.

3—Aside from improper adjustment of the float flooding may be caused by:

A worn needle valve and seat. This will be evidenced by a ridge on the tapered end of the needle valve.

Sediment or dirt getting on the seat between the seat and the needle valve, thus preventing the needle valve from making a tight joint. This can usually be remedied by unscrewing the dust valve and pulling the needle valve up, thus allowing the gasoline to flow in with a rush and wash off the seat. If this

## Hose Clamp Table

This table shows the proper size hose clamps to use on different size and ply hose. The size given is the outside diameter of the hose or the inside diameter of the hose clamp when it is extended.

Inside Hose Diameter	Outside Diameter of Hose			
	One-ply	Two-ply	Three-ply	Four-ply
3/16	7/16	1/2	9/16	5/8
1/4	1/2	9/16	5/8	11/16
5/16	9/16	5/8	11/16	3/4
3/8	5/8	11/16	3/4	13/16
1/2	3/4	13/16	7/8	15/16
3/4	1	1 1/16	1 1/8	1 3/16
1	1 1/4	1 5/16	1 3/8	1 7/16
1 1/4	1 1/2	1 9/16	1 5/8	1 11/16
1 1/2	1 3/4	1 13/16	1 7/8	1 15/16
1 3/4	2	2 1/16	2 1/8	2 3/16
2	2 1/4	2 5/16	2 3/8	2 7/16
2 1/4	2 1/2	2 9/16	2 5/8	2 11/16
2 1/2	2 3/4	2 13/16	2 7/8	2 15/16
3	3 1/4	3 5/16	3 3/8	3 7/16

does not remedy the matter, the float must be taken out and the cause of the trouble removed.

#### Remedy for Leaky Float

1—Evidence of a leaky float is an exceptionally high level to the gasoline in the float chamber, and a low position of the float in the gasoline.

2—The remedy is either to install a new float or take the old one out and repair it.

3—To remove the old float, remove the dust cap.

4—Remove float chamber top.

5—Remove float stud.

6—Hold the float over a mild flame until the gasoline evaporates and forces the vapor out through the hole. When the hole is found, it is enlarged with a nail punch or other tool.

7—Drain the remaining gasoline out of the float through this hole.

An alternative method is to place the float in very hot water. The expansion of the air and gasoline vapor inside the float will push it out through the hole, and the hole can be quickly located by means of the bubbles.

8—Dry the float thoroughly.

9—Solder up the hole.

10—File off the surplus solder so that the weight of the float will not be materially increased. *If this is not done, the level of the gasoline will be changed and flooding is likely to result.*

11—Replace the float, float stud, cover and dust cap.

#### New Float Valve

1—To fit a new float valve the old parts are removed as in the previous operation and a new needle valve and sleeve inserted.

2—If the leak still continues, the difficulty may be that there is a burr on the seat, and this prevents the valve making a good contact.

3—This burr is removed by taking off

the dust cap and tapping the top of the float valve one light square blow with a half-pound hammer dropped through a distance of about 3/4 in.

If everything about the carburetor is in good order, then the trouble may be in the nozzles.

1—To remove the primary nozzle unscrew the drain cock.

2—Stick a screwdriver up through the drain well into the screwdriver slot in the primary nozzle and unscrew the nozzle. The thread is right hand.

3—The secondary nozzle is removed by loosening the air-horn nut and turning the air horn to one side.

4—Remove the auxiliary gasoline well plug.

5—Remove the nozzle in the same way that the primary nozzle was taken out.

6—If the engine will not operate satisfactorily at low speed unless the air valve is held tightly against the seat, the indications are that the opening in the primary nozzle is either too small or is partially stopped up.

7—The number stamped on the outside of the nozzle indicates the drill gage size of the hole.

8—If a drill of the same size is run through the hole by twirling it between the fingers, this will clear the hole out, and it should then be thoroughly washed out and blown out before reassembling.

9—If, after reassembling and testing the engine, the same trouble is experienced, the hole is evidently too small and should be enlarged by means of the next larger size drill, which would be the next number lower. This is provided, of course, that another nozzle of the correct size is not at hand.

10—If the hole is too big it is soldered up in the upper end of the nozzle and then drilled through the solder, the excess solder having been first filed off flat and smooth at right angles to the length of the nozzle.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2080—CUTTING GLASS FOR HEADLAMPS

Round glasses such as are used in headlamps can be cut without the use of a circular cutter by laying the glass on a drill press table. A short piece of  $\frac{3}{8}$ -in. cold rolled is placed in the drill press chuck and this is lowered onto a block of wood which is placed on top of the piece of glass. A slight pressure on the feed lever will suffice to keep the glass in position, and a glass cutter equipped with a hook made of 3/16-in. drill rod threaded on one end, which goes through a hole drilled in the shank of the glass cutter. The diameter of the glass to be cut is regulated by screwing the hook in or out to the proper radius and then the glass cutter is simply swung around the cold rolled steel, using it as a center.—A. T. Aton, Ocean Park, Cal.

## No. 2081—CYLINDER-HEAD LIFTING HANDLE

This is a handle for lifting cylinder heads without damage to the gasket. It consists of a piece of drill rod bent at right angles and a spark plug shell pinned to either end. One of these shells is  $\frac{1}{2}$  in. pipe size and the other is S. A. E. This makes the tool universal as to spark plug sizes, and the end of the handle that is not screwed into the cylinder head forms a convenient handle to do the lifting with. Two of these tools form a set and one is placed over the number one cylinder and the other over the last cylinder.—J. W. Bagard, Dexter Garage & Machine Shop, Dexter, N. Y.

## No. 2082—LATHE BENCH

A handy lathe bench to save time and steps is placed at the headstock end of the lathe and holds all the parts and accessories, each part having a place on the bench. The centers, small chucks, etc., are kept in holes drilled in the corner board, the dogs are hung on the pegs and the chucks and steady rest on the cross bars underneath. Micrometers, tool steel, tools, etc., are kept in the drawer, which is provided with a lock, and short lengths of stock go on either side of the drawer in the bins. If desired the bench can be mounted on casters so that it can be easily moved about.—A. T. Aton, Ocean Park, Cal.

## No. 2083—SPLIT WEDGE BOLT LIFTER

A split tapered wedge is used to remove a tight bolt which is in such a position that it cannot be driven out from the

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

1—Describe the shortcut briefly but clearly, in few words.

2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.

3—Write on ONE side of the paper only.

4—Sign your name and initials, the name of the company you are with, and the town.

Write plainly. If your name is unusual, print it in capital letters.

other end. The wedge is inserted under the head and when the large end is hammered the bolt lifts as the wedge is driven in. Several sizes can be made to fit different sizes of bolts and cap screws.—A. E. Ernstsdorf, Logan, Ia.

## No. 2084—SHOP TWEEZERS

A pair of tweezers is made from a couple of worn-out hack saw blades by softening the ends near the holes and bending them to an offset, as shown in the illustration. The edges are ground to a round point and a convenient length for garage use is about 6 in. The two members forming the tweezers are held together by a machine screw and nut through the holes. The place where the bend is made is afterward hardened and tempered to a straw color.—F. P. Fetters, Pennville Auto Co., Pennville, Ind.

## No. 2085—RIVET SET FOR EISEMANN MAGNETO POINTS

This is a set to rivet the contact points on the Eisemann magneto. It is made by forming the point of a nailset to the shape shown in the illustration. This

consists of a point in the center to go into the hole on the new rivet and a cup surrounding this to swage the edges into a rivet head. After forming the tool hot, it is hardened and tempered to deep blue.—R. J. Everest, Electric Equipment Co., Los Angeles, Cal.

## No. 2086—FITTING A RADIATOR FOR TESTING

A leaky radiator which is to be tested under water is fitted for this operation by clamping two pieces of inner tube to the inlet and outlet, the other ends of these pieces of tube being tied up at the ends to prevent the escape of air. One of the pieces of tube should have a tire valve in it so that it can be readily attached to a pump. The radiator cap is provided with a gasket and a cork is placed in the end of the overflow pipe. When pressure is applied through the tire valve the pieces of inner tube act as reservoirs and also prevent too much pressure being placed on the radiator because the tubes would blow out before a dangerous pressure would be reached.—A. T. Aton, Ocean Park, Cal.

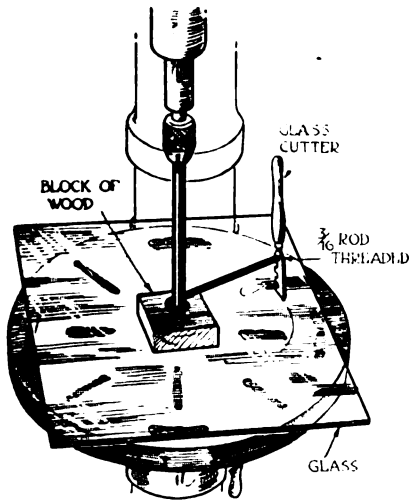
## No. 2087—REMOVAL OF SPINDLE BUSHINGS

Spindle bushings are removed by grinding off the edges of a steel spud which is the same diameter as the outside of the bushing, the edges being ground until it will just slip through the hole. The ends are beveled a little to allow it to turn after being inserted, and a heavy punch or the old spindle bolt is run through the upper bushing and against the spud, which lies across the lower bushing. This bushing can then be driven out by pounding and no damage will result to punch, knuckle or bushing.—A. T. Aton, Ocean Park, Cal.

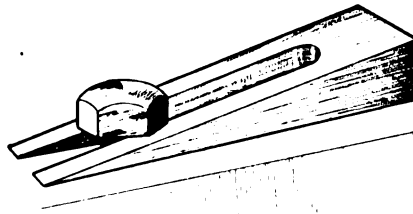
## No. 2088—WEDGE FOR REPLACING RIMS

Rims can be replaced in tires by using three pieces of 2 x 4 cut to such a length that they will occupy positions as shown in the illustration, the length depending upon the size of the rim. A few blows of a hammer at the point indicated will wedge the two boards apart and slip the rim into place with a minimum amount of hammering and without marring the rim in any way. The tire and rim are laid flat on the floor in performing this operation.—D. J. Dougherty, Cle Elum Welding & Vulcanizing Works, Cle Elum, Wash.

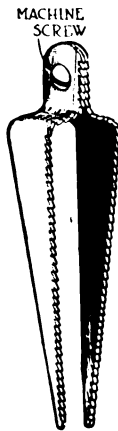




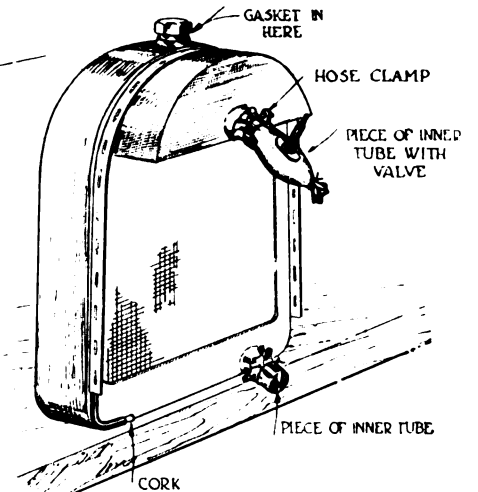
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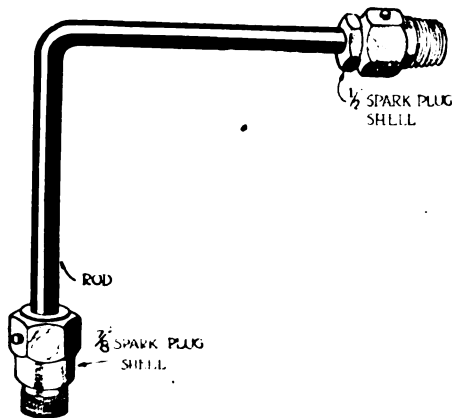
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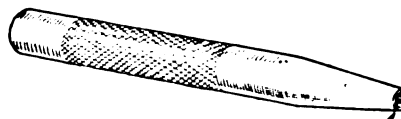
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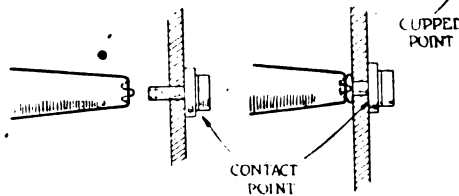
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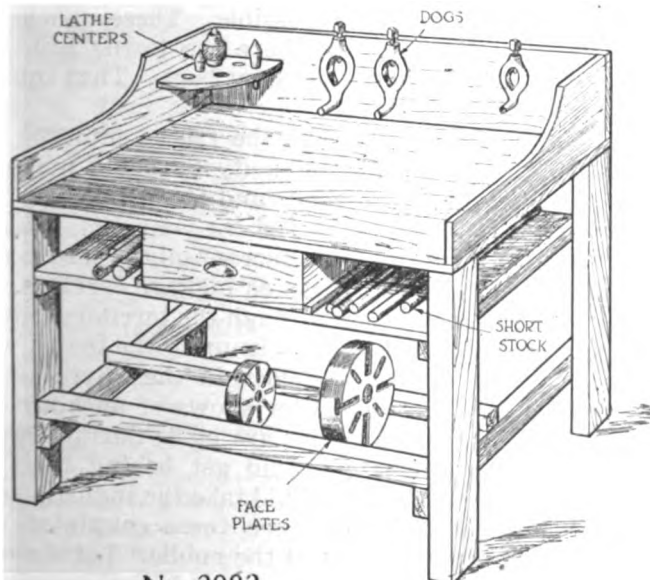
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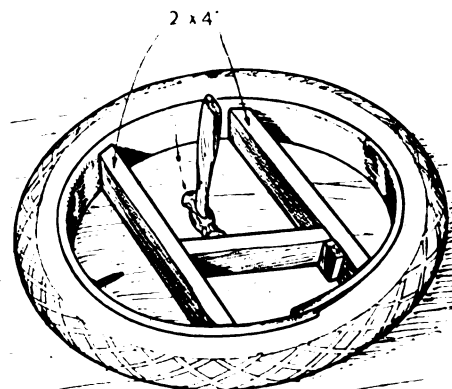
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No. 2087



No. 2082



No. 2088



# Editorial Observation

## Retain the Shortage

**T**HE only prospects for the dealers during the next six or eight months is a car shortage. It will mean profits lost—or not secured—during this period just at hand, but it will mean more and better profits later on when production comes nearer to the demand next winter.

The shortage is, in a way, a blessing to the industry. It creates that stimulating condition of a demand that is greater than the supply, and dealers should do everything they can to retain this status of affairs.

The shortage should be continued, not by decreased production, but by increased sales effort. The industry should always be kept before the public, as in days gone by, only more so. The dealers should and must force sales and keep forcing for all time. There must never be a let-down for any reason whatsoever.

Had there been an enormous production immediately after the armistice harm would have been done. Demand would have been greater than supply. Selling would have been difficult. The value of the product would have been depreciated. Trading at long prices would have been a temptation, and we would have gone back to some of the pernicious practices that the war weeded out.

And then came the period of activity created by the dealers, with their shows, their advertising and their sales work. All at once the demand became greater than the supply. And now comes spring and summer with wonderful weather. While the supply is greater the demand is out of proportion entirely. We still have our shortage.

But production is going to increase. It is going to reach normal—or what we refer to as normal—some time next fall. At the same time, according to statistics of previous years, the demand will naturally decline. This is where the dealers' part comes in. They **MUST** continue to force business. They must keep on selling, selling, selling.

As a preliminary to this forced selling during later months they must be exceptionally active this summer. They must do everything they can to stimulate sales and increase the demand. The more unsatisfied demand there is this summer the greater will be the normal business next winter.

This means two things. 1—It means that every dealer must operate a sales department on an intensive plan. It is no longer possible for the dealer—of any size—to be manager, sales manager, service manager and everything else. He must establish a de-

partment for sales, devote to it all the time he can and have a manager who will keep things spinning at top speed. He must departmentize.

2—The dealers must get into the publicity and limelight movement that has been instituted within recent weeks. They must promote contests, tours and all sorts of things. They must keep the industry in the public eye as it used to be in the early days of trade building.

Wherever there is a state fair next fall there should be something of an automotive nature, an exhibit, a contest, a tour or something. Offer a prize for the car owner who comes the greatest distance with the greatest live weight load. Have a parade of all the cars in your section around the race track, in one gate and out the other, to see how many cars you can get in line. Give a prize for the best decorated car. Select a group of likely winners and let the grandstand help decide by its applause just the same as in done on amateur nights at theaters. Make the prize \$500 or \$1,000 or a new car—something big enough to arouse public interest.

As the roads dry and the woods are suitable for picnics stage some tours and picnics. There are all sorts of sociability and secret-time affairs that attract attention and are enjoyable. Work out something original and let **MOTOR WORLD** tell other dealers about it.

Have races wherever possible. These can be held in many sections, even where the towns are small. Have a race for the home-talent boys. That interests everybody.

Have a truck tour. Get the trucks into the limelight. Trucks can get publicity by being made luggage carriers on good roads and trade boosting tours through the territory served by your city. Kansas City and Milwaukee have successfully promoted such tours and have used trucks as luggage carriers.

Promote a truck tour through the territory, making frequent stops. Line the trucks up in the towns where you stop about 3 or 4 o'clock in the afternoon and have a show. Have shorter shows of an hour or so in other towns where stops are made during the day.

Dealers everywhere should get behind this limelight movement. They should take the industry out of the fog in which it has been for a couple of years and jam it into the faces of the public. Let the world see that the industry is back and coming stronger every minute. Force the issue—then later days will be better able to take care of themselves.



# LETTERS *from* READERS

## Say "Motor Company"

Editor Motor World: As we have been subscribers to your good paper for several years, and you also have been referred to us by Joseph St. Mars of Winnipeg, we are taking the liberty of sending you this letter to get some information.

When we started this firm some years ago we were a company, but for the last six years the writer has been the sole owner of the concern. He is contemplating changing the name, thinks it would be better to have the name of the owner before the public at all times, and, as we sell automobiles, tractors, accessories, and are distributors for some thousands of items, I thought of changing the name to A. Renuart, and thought that "A. Renuart, Distributer of Automotive Equipment," would cover any lines that we might handle in the future, and that it would be permanent. What do you think of it, or could you suggest anything which would be more appropriate?—The Modern Automobile Co., Prince Albert Sask., Canada.

Answer—We have always been partial to the word "motor" in a company name, because it has a rather strong sound and is quite descriptive of all the activities in this trade. Inasmuch as you want to get your own name before the public, we would suggest that you call your company "Achille Renuart Motor Company." Underneath the company's name you could then say "cars, trucks, tractors and equipment," and add any other names that were necessary to describe your business.

## War Tax

Editor Motor World: We are very much interested in your facts about the new war tax on page 8 in your issue of March 12. There are some points, however, from the standpoint of the jobber on which we would like to be enlightened by your good selves, if you are in position to give us this information.

It seems that the manufacturer is entirely in the clear, as the minute the tax goes on he begins charging it, and continues to charge it until the tax will eventually be taken off by the government. On the other hand the jobber and dealer cannot legally begin charging this tax until they receive the goods which were shipped and invoiced by the manufacturer after Feb. 25.

Eventually, if this tax continues for one, two or three years, all of the stock that would be taxable has been moved out of the jobber's hands, and he will have only such stock in his possession as that on which he has paid the tax. Along about this time the government will take the tax off these various articles and

*THIS page is for the use of MOTOR WORLD readers. Letters on subjects of interest to dealers, garagemen, repairmen and jobbers are always welcome.—EDITOR.*

Mr. Jobber will be left high and dry with the stock on which he has paid 5 per cent tax, and he will have no way of collecting it. This also holds true in a lesser way with the dealer. We will be glad, indeed, to hear from you as to your view in this particular matter.—Archer & Wiggins Co., Portland, Ore.

Answer—Our advice to jobbers and dealers on the question of this war tax is that you mark up the price of your goods to a point which will cover the wholesale price and the tax and sell them at that figure. For instance, if the manufacturer sells you a horn for \$10 and to the invoice adds a tax of 50 cents, you have bought this horn for \$10.50. If you are adding 20 per cent to the factory price to cover your profit and overhead, consider the factory price of this horn as \$10.50, and add 20 per cent to \$10.50, disregarding entirely the fact that part of the \$10.50 is war tax.

The government is not concerned with what you sell your goods for. Its only concern is that you shall not tell a customer that you are adding for war tax an amount which is greater than the actual tax. Our advice is that you forget that part of it is tax and go ahead and transact your business in the usual way.

As to the tax some day being removed and goods going back to a lower figure, we believe you should handle your stock just as though this increase due to the tax were an increase due to normal conditions. If your goods were advanced to a certain amount in price in normal times you would add that amount to all you had in stock and would sell them at a certain figure. Then some day when the price went down you would reduce your figures accordingly.

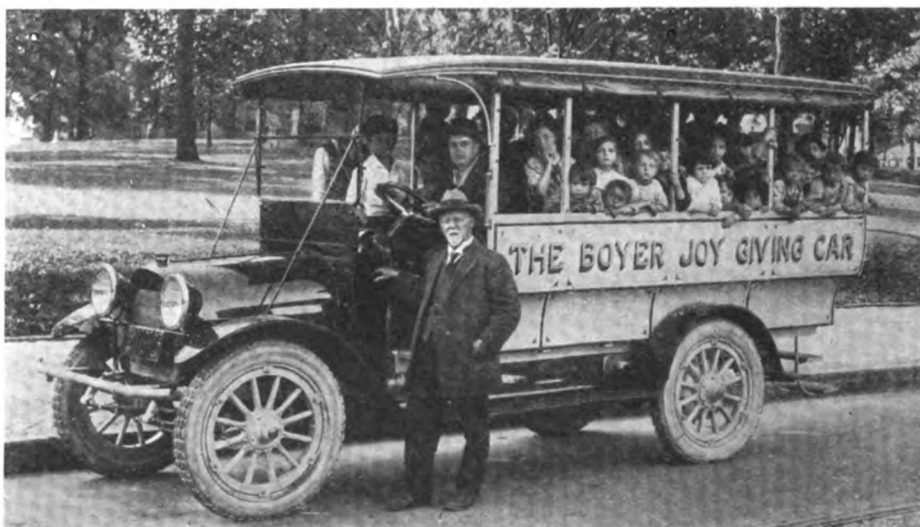
Your concern is, of course, to see to it that you don't get stuck with too large a stock.

However, you are more fortunate so far as the tax increase is concerned than you would be with an increase due to normal conditions, because the tax applies for a definite period, whereas with a normal price increase you never know when it is going to go up and you can't tell when it is going to come down, and if you are overstocked you suffer.

In Motor World of March 26 is a page on the tax which gives the best information we have on the matter, and that is, forget about the tax and mark your goods up to a price which you consider safe and then say that the price is so much, including war tax. If you do it that way it doesn't matter how much you add for tax so long as you don't say anything about it to the customer.

## The Boyer Joy Car

Editor Motor World: We want to call your attention to the Boyer Joy Car, of which we are sending you a photograph. This man, Charles Boyer, some 35 years ago, devoted his exclusive time to giving pleasure to children, shut-ins, by which we mean people who were crippled and



Here we see the Boyer bus full of Harrisburg kiddies. Mr. Boyer (who is standing alongside the car) has brought them out to the park, where they can enjoy the sunshine and pure air and feast their eyes on the blue sky and the trees in bloom



poor and never got out of the house unless some kind-hearted person took them out. His first proposition was a little trailer on the back of a bicycle, in which he could pull two or three kids on the level street. Public subscription in Harrisburg raised sufficient money to buy him a Reo car equipped as a jitney bus, and Boyer has gone around to the slums, poor districts, schools and out-of-town places hauling lots of kids during the spring, summer and fall.

He has gone around to all the poor-houses and other institutions of charity, hauling the inmates on pleasant days. In addition to this, he gathers up rolling chairs or crutches from some wealthy families that were used at one time and are now discarded, and takes these to the poor people who can't afford these luxuries.

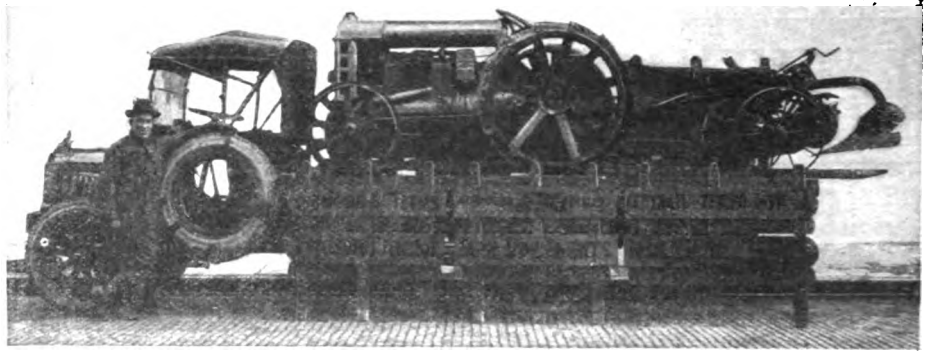
He has organized singing classes with the kids he hauls and has taken them around to different places singing, and gathered up collections to maintain the outfit. He also issued little certificates that value from 5 cents to \$10, entitling every purchaser to that much interest in the Boyer Joy Giving Car.

Out of all this work he gets nothing but his car. He has hauled probably 3000 children and invalids and in that way has relieved an immense amount of trouble and pain and given lots of pleasure.—George G. McFarland, President Harrisburg Automobile Co., Harrisburg, Pa.

### Truck Hauls Tractors for Demonstration Purposes

Editor Motor World: We have noticed in your magazine various pictures of trucks, and methods used in transporting tractors to the farm and for demonstration purposes. We are sending you photographs of a Packard 2-ton truck which we use for transporting tractors and farm implements to the farms, also for transporting our demonstrator to various demonstration points.

We operate three garages and selling



*Loading a Fordson tractor and an Oliver No. 7 plow on a Packard 2-ton truck*

establishments for the Ford and Fordson tractor. These are located in Centralia, Tenino and Olympia, Wash. The distance from Centralia to Olympia is 30 miles, and Tenino is located half way between these two points. To facilitate the handling of tractors, implements and other stock, we have a warehouse located in Centralia, which is the most convenient point for railroad transportation, and when a tractor is sold in our Olympia territory it is taken from our Centralia warehouse and is delivered direct to the customer. We only maintain the showroom stock at Olympia and Tenino.

We first tried the truck with solid tires, but as the roads are hard gravel roads and in some places badly chopped up and rocky, we experienced considerable upkeep to the truck and cutting of the tires, and since we have installed the pneumatic tires we have saved considerable time and in addition have relieved the truck of the excessive upkeep.

We have the selling agency for the Fordson tractor for three and one-half counties, and we sometimes are required to deliver a tractor 50 miles; and as it is an easy matter to travel 20 to 25 miles an hour with pneumatic tires on the truck, the tractor can be delivered to the owner and the owner taught to operate it and our salesman can get back the same day.

In addition to the use of this truck

for our tractor and implement business, we find it a very great assistance in transporting supplies from the Centralia warehouse to our Tenino and Olympia garages. We sometimes receive our oil and Ford parts in carload lots and distribute them by the use of this truck.

The truck is painted a bright yellow, with lettering in black outlined with a fine red stripe, giving it a very attractive appearance. All of our service cars are also painted in this manner, likewise our gasoline pumps, and our slogan is "Look for the yellow pump," which we have found a very easy way to direct customers to our different garages.—St. John & Titus, Centralia, Wash.

### No Tax on Exports

Editor Motor World: Would you kindly call the attention of United States manufacturers through the columns of your paper to the fact that the excise tax on automobile tires and accessories in the United States does not apply to export shipments to Canada?

We have been receiving quite a number of shipments lately where manufacturers have applied this tax, and we wish that you would call their attention to it, that they may discontinue sending such invoices at an early date.—The Motor Car Supply Co., Ltd., Calgary, Alberta, Canada.



*This Packard truck is also used as a sales car. A Fordson tractor and a plow are loaded onto the truck and a salesman drives out into the country, shows the outfit to the farmer and, if he is sufficiently interested, it is unloaded and a demonstration given*



# SCIENTIFIC CONSTRUCTION

GARAGES

SHOWROOMS

REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

## A Building for Battery Service Station

Editor Motor World: Please send information on the way you would plan a building for a battery service station and electric work on cars—office, washrack, toilet, shop supplies and all electric supplies. The building is 44 ft. front and 48 ft. rear, 76 ft. deep. This building is on a corner lot.—Lewis Battery Service Station, Johnson City, Tenn.

Answer—In addition to providing ample space for battery charging and battery overhauling, we have found your plot ample not only to include a service station which will accommodate about fourteen cars on storage, but also have provided an accessory store and stockroom, battery store and stockroom, office and toilets.

As we understand your letter, you wanted only a battery service station. If we thought that you wanted a shop for doing general repair work we should lay the space out quite differently.

Inasmuch as you have plenty of space for an accessory store, we took the liberty of including this feature, as we feel quite sure that you sell accessories anyhow. The battery store is separate because batteries are often dirty and smelly. There is a showcase in this room for the sale of battery and other elec-

trical accessories, and there is a counter at the rear for receiving and delivering batteries which are brought in. Right back of the counter is a battery stockroom for new batteries and batteries waiting for customers to call.

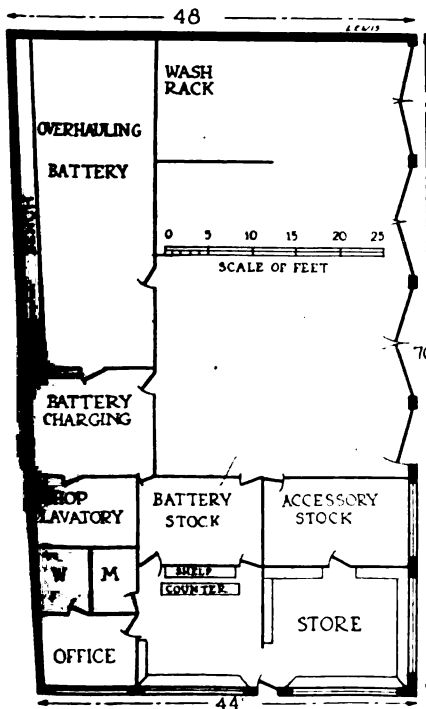
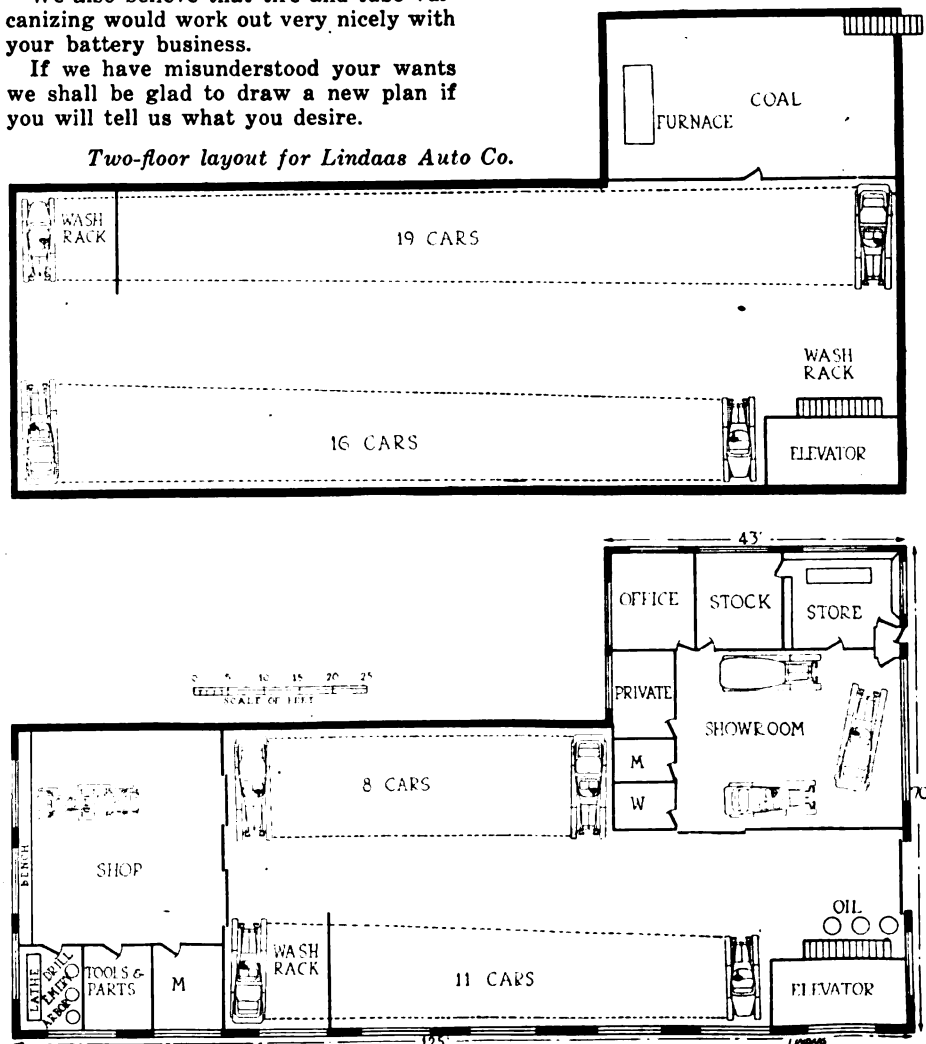
One complete side of the service station is made up of a series of doors. This is so that cars may be run directly into the station without any maneuvering. By this provision two rows totaling fourteen cars may be packed into it just like so many blocks of sugar in a box.

We believe that the battery overhauling shop is quite large enough for your needs and that the same holds true of the charging room. The latter room is conveniently located on the way to the battery stockroom and the store. We note that you burn out carbon and we feel that you can well expand this phase of your business to the limit, at the same time doing welding.

We also believe that tire and tube vulcanizing would work out very nicely with your battery business.

If we have misunderstood your wants we shall be glad to draw a new plan if you will tell us what you desire.

Two-floor layout for Lindaas Auto Co.



Plan for the Lewis service station, 48 x 76 x 44 ft.

## Garage Building on Plot 70 x 125-Ft.

Editor Motor World: Kindly mail me suggestions on the building of a garage. We contemplate building in the spring.

Thanking you in advance for any suggestions you may be able to give.—Lindaas Auto Co., Mayville, N. D.

Answer—You failed to indicate on your sketch what side the street was on, but from the position of the sketch we believe that the street is on the 70-ft. side, and have drawn your plan accordingly.

We think that you are making a mistake to use a basement. Why not use a second floor instead? People don't like to store their cars in basements. The light is poor and they are damp. A second floor is much more desirable, and you will be able to get more money for your space.



### Storing Cars in Three Rows

Editor Motor World: We have been interested in your scientific construction of garages and would like to have you submit to us plans for a garage and sales-room, details of which we give below.

The lot we have an option on is a corner lot, with a 60-ft. frontage on the main street and 150-ft. frontage on the side street.

We are handling passenger cars. We do not handle a truck but may take one on later. We carry a large line of tires and accessories and have a truck tire department with a tire press. We do not have, at the present time, a storage battery department, and do not know whether we shall ever take on this line.

We do a general garage business, having at the present time ten men in our repairshop. We would like to have storage accommodations for almost 100 cars, because we believe that storage customers give us considerable other business.

We want our showroom to be large enough to show our cars to advantage and to be quite prominent as a showroom. We also want to give our accessories department more or less prominence. We would want three or four offices off from the sales or accessories room on the lower floor and well lighted by daylight, if possible. This building would have to be a three-story building.

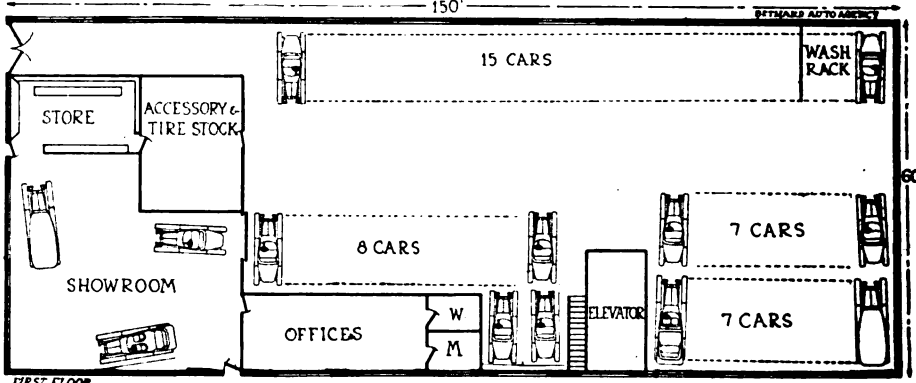
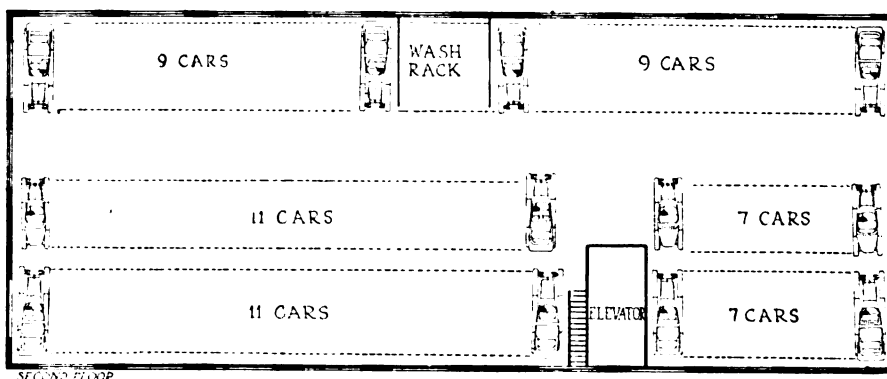
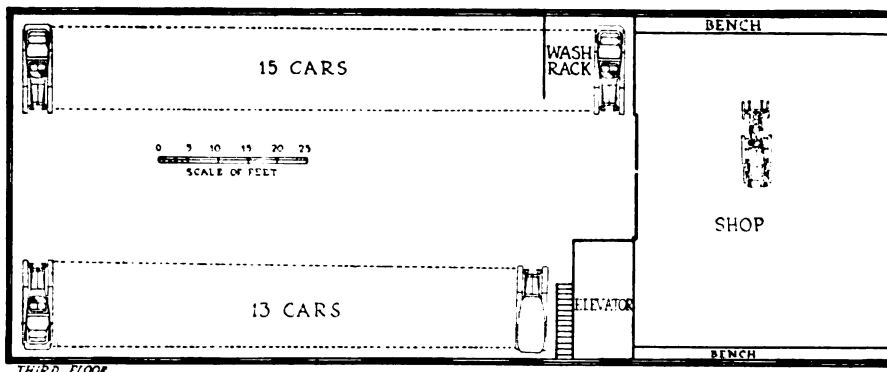
We ask that you kindly submit a plan and give us any advice you could along the lines of construction or business in general.—Bethard Auto Agency, Richmond, Ind.

Answer—Herewith is a plan drawn to meet your requirements. Inasmuch as we were not quite sure as to what your total office requirements were we simply assigned a well-lighted strip along the side of the building for this purpose without any attempt to divide it up—this should be easy for you.

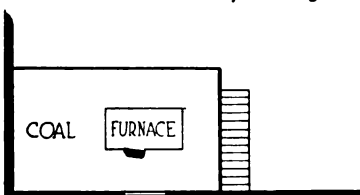
You will note that throughout the building we have placed two rows of cars on one side of the aisle and one row on the other. You understand that this arrangement causes no difficulty when it is worked out properly. The cars on the inside row should be those which go out late and come in early; those in the outside row should be those which go out early and come in late, and those in the single row should be those which cannot be so classified. It is a simple matter for your floorman to make this classification. Some cars will be so regular in their movements that they can be assigned permanent positions in one of the rows and others so irregular that they must be placed in a different row every night.

### A Small Garage

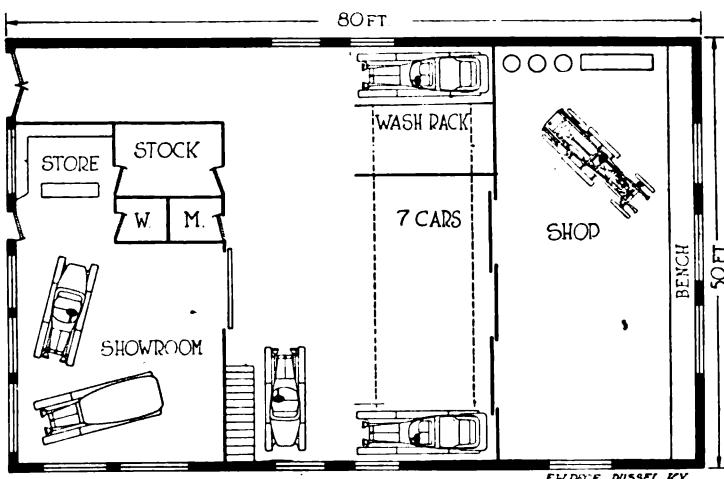
Editor Motor World: I am arranging to build a garage 50 x 80 ft. I want small showroom, stockroom, place to wash cars and workshop. If you have any plans for a garage this size I would appreciate seeing them.—E. W. Rece, Russel, Ky.



Three-floor layout for garage building on 60 x 150 ft. plot



Answer—Herewith is a garage plan drawn according to your request. The garage space is rather small, but this cannot be helped, as it was given all the room that was left after spaces were apportioned to the other departments.



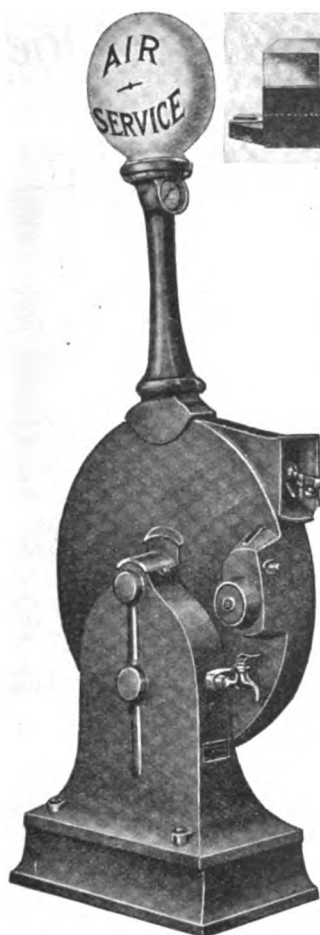
Plan for  
Rece's  
Garage,  
50 x 80 ft.



# Automotive Equipment

## ECO AIR AND WATER STATION

This is an outside or curb station for supplying air and water, the air line being connected to the compressed air supply in the garage. The station carries an enclosed spring-operated reel which carries the air hose and this reel is controlled by a coin device which makes it necessary to deposit a coin before air can be obtained. An automatic cut-off in the base shuts off all air pressure except when the hose is pulled out. When the hose is released the spring draws it back into the station. Model 12 has an electric light standard, height 5 ft. 5 in., width 25 in., 12 ft. of hose, shipping weight 215 lb. Price \$125. Model 10 is the same, but has no light standard. Price \$110.—Western Mfg. Co., Oskaloosa, Iowa.



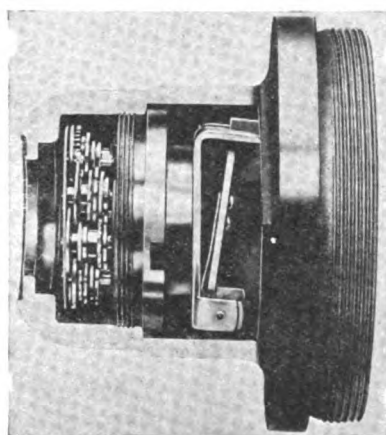
Eco Air and Water Station



Supreme Quick-Acting Vise

## SUPREME QUICK-ACTION VISE

This is a quick-action vise for general machine shop use, and can be used on the bench or on machines such as milling machines, grinders, etc. The sliding jaw is operated by means of a sliding lever, which draws it tight against the work while the eccentric lever gives it a final tightening, thus holding the work securely. The base is straightened to fit the slide.—Spafford Tool Works, 10 Hoadley Place, Hartford, Conn.



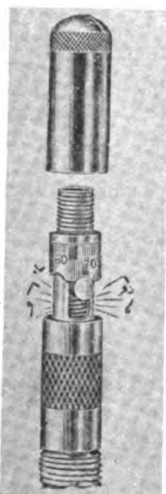
Dreadnaught Hub Odometer

## AUTOMATIC DRIVE DREAD-NAUGHT HUB ODOMETER

This is a hub odometer which is driven by means of a stout steel finger which engages in the slots of the hexagon castellated nut on the spindle. This finger is held firmly in place by a heavy flat spring and no machine work or delicate adjustment is necessary to attach the device to the hub. No spiral springs are employed and the drive is taken through an eccentric steel cam operating a steel lever which turns a cut steel ratchet controlling the gear train.—American Taximeter Co., Broadway and Sixty-first Street New York City.

## AUTOMATIC TIRE PRESSURE REGULATOR

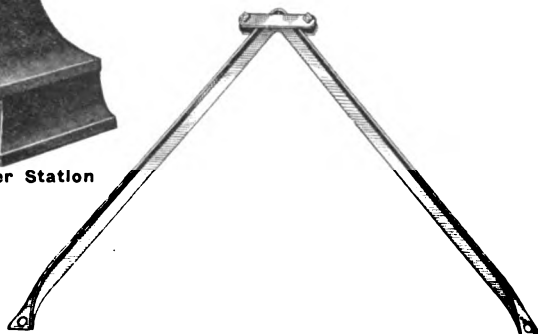
This is an automatic device which, when applied to a tire valve, becomes a sort of safety valve and when the pressure in the tire reaches a predetermined point, the air escapes, making a whistling noise. It is therefore unnecessary to use a gauge. The proper pressure can be set on the device by turning the collar around to the pressure marked and then tightening the locknut.—Automatic Safety Tire Valve Corp., 199-203 Eighth Street, Long Island City.



Automatic Pressure Regulator

## J & D TIMER FOR FORDSON TRACTORS

This is a special heavy duty timer for Fordson tractors and is interchangeable with those on Ford Cars. The case is of heavy pressed steel and the segments are extra thick to allow for strength and durability. Price \$1.60.—J & D Mfg. Co., Pittsfield, Mass.



Front Axle Support for Fords

## FRONT AXLE SUPPORT FOR FORDS

This is a front axle support for Fords to prevent bending the radius rod. It is easily and quickly put on by removing the nuts from the bolts on the axle, the rear end of the device being clamped to the regular Ford radius rod. Does not interfere with shock absorbers and is made of 1 in. angle iron enameled black. Weight 5 lb. Price \$1.25.—Gahm-McCormick Co., 802 East Main Street, Streator, Ill.



J. & D. Timer

## AJAX INSIDE BLOW-OUT PATCH

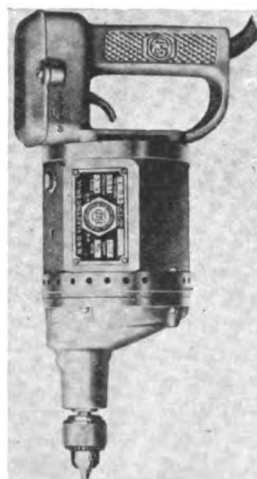
This is a rubber tipped patch for quick repairs of tire blow-outs or fabric breaks. It is made from multiple plies of new high-grade frictioned fabric and is formed and molded to fit perfectly the arc of the tires. Flaps are provided, these extending outward between the bead of the tire and the rim, holding it firmly in place. Fine rubber tips are furnished to prevent the possibility of tube chafing. Furnished in sizes of from 1 to 5 1/2 in. and in lengths from 9 to 11 1/2 in. Packed one in a carton or ten in a bundle unboxed.—Ajax Rubber Co., New York City.



Ajax Blowout Patch

## BLACK & DECKER 3/16 AND 1/4-IN. PORTABLE ELECTRIC DRILLS

These are two new electric drill models with pistol grip and trigger switch. They can be worked with one hand and the current can be controlled without changing the position of the hand. The motors are 1/6 hp. with series compensated windings and operate on any current from direct to 60 cycle alternating. Cooling is by means of a vane impeller mounted on the armature shaft which forces air through the housing. The speed of the smaller drill is 1600 r. p. m. and of the larger drill 1200 r. p. m. The current consumption is about 175 watts.—Black & Decker Mfg. Co., 105-115 South Calvert Street, Baltimore.



B. & D. Electric Drill



# Hitch Yourself to NATIONAL ADVERTISING

## Here's How One Man Does It



*McQuay-Norris built a show window because it was the custom to build them. It used the windows for everything and anything. War work and general displays were used considerably. And then the windows were made of some value by hitching them to the company's national advertising. In the window was painted a transparency, showing a scene carried generally in the company's advertising. How many dealers in cars and trucks are taking full advantage of national advertising and are getting maximum value from their windows?*

**"MEN** are creatures of habit. We do things to-day because we did them yesterday. Many men in the motor car business to-day are doing things because their grandfathers did the same things in their drygoods stores years and years ago. Just why this is so I do not know, but it is so, without a doubt."

Louis A. Safford, vice-president of the McQuay-Norris Mfg. Co., was talking. The conversation had been running from one thing to another as conversations will, so there was no telling just what Safford meant by this.

"Which means what?" he was asked.

"Advertising chiefly. When we opened this factory we built a show window; I suppose because other persons had show windows. For a long time we put into that window various sorts of piston rings, some cups and other small articles. That was a matter of habit.

"Now you know as well as I know that no one walks along Motor Row, except people who work here and they are not looking for things to buy. But we kept on displaying those articles for several years until the war, which jolted a good many persons, jolted us out of that habit.

"In an effort to help along the various movements that were under way during the war, we devoted the glass of that window to large signs for recruiting campaigns, cause movements and collections. We followed a more or less stationary design, with the cause spread in big letters and posters framed in the paint on each side of the window. We had lights behind them and they appeared to be rather effective. We are located here just at the top of the hill on Motor Row, which is the busiest driveway for motor vehicles west of the Mississippi River, and we rather prided ourselves that we were giving the war movements a good bit of advertising. But the big idea had not yet reached home.

"A good many other merchants along Motor Row also devoted their windows to this cause. Some of them because they had no merchandise to display and some because they wanted to do their

share of the advertising. It was all in a good cause.

"But when the war requirements ceased I got to thinking about the window and it suddenly dawned on me how we had been victimized by habit.

"We had been using that window just as the jewelers down in the shopping district use theirs. But there was this difference: Our public was driving by at the rate of almost 20 miles an hour and could not visualize any small object in the window. The walking public which could see what we had in there was not a buying public. It was sold on our rings—or other rings—as the case might be—for the walkers here are professional automobile folk. It was up to me to find something for that window.

"Just as this question was before me we again began using our original advertising idea, 'The ring that takes the slant out of hills,' with a picture of the motor car going up the hill. It occurred to me that if I had this picture painted on this window it would connect this very plant with our national advertising, that many persons who had read our advertisements in the national magazines would probably for the first time connect this plant with the advertising.

*(Continued on page 44)*



# Macon Learns of Truck Haulage Economy

## Four Trains of Trucks, in Great Demonstration, Transport 100 Tons of Food and Other Commodities to Outlying Points Within 50-Mile Radius

MACON, GA., April 3—Forty-odd motor trucks demonstrated to-day that the manufacturer, merchant and farmer within a radius of 50 miles of Macon can ship his wares more economically and with greater dispatch than by railroad.

The four great freight trains of motor trucks carried close to 100 tons of merchandise out of this city to outlying points, the farthest of which was 50 miles.

The ship-by-truck demonstration to-day marks another step in the movement now under way in the Southeast to educate the merchant and farmer toward motorizing his business. Three weeks ago the farmer here saw how, with the tractor, he could increase his crops. To-day he saw how, with the truck, this increased production could be readily handled.

Those who participated in the affair and those who saw it, or phases of it, feel that the motor truck is destined in the next few years gradually to replace the conventional mule team of middle Georgia and the South generally. One of the four runs, that to Fort Valley and Montezuma, was through the heart of Georgia's famous peach-growing country, where each year it becomes quite a problem to move the great crops.

In practically every one of the smaller towns visited by the motor cavalcade it was a revelation to see the radiant faces of the merchants who had received their merchandise from Macon in less time than ever before in their lives.

Some of the articles shipped to-day by trucks, say to Montezuma, 50 miles from Macon, would have required anywhere from 3 to 5 days, to say nothing of the repeated handling of the goods and danger of breakage. The merchant farthest from Macon on the run to-day got his goods in about 6 hrs. It must be remembered also that this included a stop for dinner and speeches in many of the towns.

Every conceivable kind of merchandise was carried to grocer, butcher, druggist, hardware dealer, etc. The heaviest load recorded was that on a Duplex truck fitted with a two-wheel trailer. This outfit carried 10,000 lb. of lumber, 1000 lb. of meat and four men to Milledgeville, about 37 miles from Macon. The truck left at 10 A.M. and arrived at Milledgeville at 2 P.M.

Four routes had been laid out by Benjamin Gilham, traffic manager of the Macon Chamber of Commerce, which organization put on the truck demonstration. One run was to Montezuma and intermediate points and the remaining three had as their destination the towns of Monticello, Barnesville and Milledgeville.

The weather was ideal and the roads excellent. The only mishap took place outside of Byron on the Montezuma run, where a truck went through a bridge when only half of the fleet had passed over it. This made it necessary for the remainder of the train to go back to Powersville and to Fort Valley over another road. Many of the truck drivers remarked after the demonstration that they feared some of the bridges. Frequently the fleet was stopped while the men on the leading truck looked over the bridge before venturing across. Better bridges must be built if truck transportation is to be carried on here on a large scale.

### Went to Montezuma

Fourteen trucks went to Montezuma, including a 2-ton Mack,  $\frac{3}{4}$ -ton Oldsmobile,  $\frac{3}{4}$ -ton Reo,  $\frac{3}{4}$ -ton Stewart, 1-ton Ford, 2-ton Packard,  $3\frac{1}{2}$ -ton Sterling, 1-ton G. M. C., 2-ton Republic,  $1\frac{1}{2}$ -ton Indiana,  $\frac{3}{4}$ -ton International, 2-ton Stewart, 1-ton Wilson and a Dodge Brothers. In addition to these one of the two Firestone trucks driven from Akron, Ohio, to Macon with a load of tires, was entered in this run and acted as pace-maker. The Mack truck was driven to Macon from Knoxville, Tenn., a distance of 350 miles, in  $2\frac{1}{2}$  days by Robert Maddox of the factory inspection department. The department of films of the Firestone company was on the job and caught the truck fleet at various points.

Fifteen tons of freight were carried by the trucks on the Barnesville run, the trucks leaving Macon at 10:05 and arriving in Barnesville at 3:40. This fleet consisted of a  $3\frac{1}{2}$ -ton Packard, which was one of the two transcontinental Goodyear trucks entered and driven to Macon from Akron;  $\frac{3}{4}$ -ton Reo; 2-ton Wilson, 2-ton International,  $\frac{3}{4}$ -ton Stewart;  $1\frac{1}{4}$ -ton Maxwell; 2-ton Clydesdale;  $3\frac{1}{2}$ -ton Kelly, and the other Firestone truck, which joined the fleet at Forsyth.

The Monticello run was made by eight trucks:  $\frac{3}{4}$ -ton Stewart,  $\frac{3}{4}$ -ton Reo,  $\frac{3}{4}$ -ton White,  $\frac{3}{4}$ -ton Chevrolet,  $1\frac{1}{2}$ -ton International, 2-ton Stewart, 2-ton Indiana and 1-ton Republic.

Six trucks went to Milledgeville, which besides the Duplex previously mentioned consisted of a 3-ton G. M. C., 2-ton Diamond-T, 2-ton Stewart, 1-ton Ford and  $\frac{3}{4}$ -ton Reo.

It happened that S. T. Brown, a former resident of Monticello, had recently moved to Macon. His furniture was still in Monticello awaiting shipment. All of his household goods were loaded on the several trucks that made the Monticello run and brought to Macon free of charge.

The actual handling of the various

shipments, looking after freight bills, etc., was in charge of students of Mercer College. These students are members of the commerce class and will use their notes and material gathered on this trip as a basis for working out costs and other items incident to shipping by truck in this vicinity.

As a prelude to the great demonstration 123 trucks, most of them loaded, paraded the streets of Macon Wednesday afternoon. Eighteen makes were represented.

### Two-Day Tractor Show in Maryland

BALTIMORE, April 7—The Washington County Agricultural Association, the Maryland State College of Agriculture and Thomas L. Smith, county agent, will stage a two-day tractor demonstration on April 16-17, near Hagerstown. The two days will be filled with power machinery features, including tractor plowing, disking, rolling, oat and clover seeding, manure and lime spreading and belt work for the tractors. A tractor parade is also planned.

Among the makes of tractors which will participate are Happy Farmer, Chase, Avery, Fordson, Emerson-Brantingham, Cleveland, Waterloo Boy, International Harvester, Moline, Wallis Cub, Huber, Case, Parret and Maxim. Power Machinery will also be shown.

Rules for the contest are as follows:

1. Demonstration shall begin at 1 p. m. and continue until land is plowed and disked. The same tractor must be used for plowing and for disking.
2. Each tractor will finish its own dead furrow.
3. Each tractor must be run at its catalogued plowing speed. Tractors may run on high gear with normal engine speed when doing light work like harrowing, seeding, etc.
4. Exhibitors will be allotted land drawn by lots.
5. Uniform depth of plowing will be required and the depth thereof will be designated at the morning conference of tractor representatives and the demonstration managers.
6. Each field plowed will bear the sign of the exhibitor doing the work. Each exhibitor will be required to assist in plowing the land ends as directed by the field manager.
7. Each tractor shall bear a placard stating the draw-bar and brake horse power of the engine, revolutions per minute, the plowing speed in miles per hour, and the kind of fuel used.
8. All tractors will be required to plow during the first hour continuously and at the end of that time the tractors can be stopped on the headlands for not more than 20 minutes. This will give visitors and salesmen an opportunity to become acquainted.
9. Each tractor exhibitor will have the privilege of burning any kind of fuel he chooses, but all exhibitors will be required to obtain their fuel supply from a source designated by the field manager.
10. If a tractor or a plow breaks down on the field, or is unable for any reason whatsoever to finish the land, the exhibitors may either take the machine off the field and have the land plowed by another tractor designated by the field manager, or may put in a similar machine bearing the sign, "Substitute Tractor." If a plow is substituted the sign "Substitute Plow" must be used.
11. The managers of all exhibits will be expected to report to the Field Manager not later than 9 o'clock on the morning of the demonstration for a conference at which full instructions will be given.
12. Each exhibitor will be expected to use due care at all times in operating his machinery with respect to its possible effect upon public safety.
13. Should the fields be unfit to plow on April 16 and 17, the demonstration will be held on the following days, April 18 and 19.
14. Tractors and other machinery should be ready for exhibiting by 9 a. m. of the day of the demonstration.



## DETROIT BUSINESS IS NOW NEARING NORMAL

*In March 34.13% Was Normal Compared with 30% in February—Much Building*

DETROIT, April 3—All business in Detroit, especially in automotive lines, is showing a marked improvement. The transition of business to a peace basis is going forward with few serious jolts. Released available labor is being rapidly absorbed and building operations have taken a great boom. Work was started on 335 new buildings and 165 new additions during February. The majority of building operations represent manufacturing plants and business places. The estimated cost of these new structures totals \$1,279,065.

Approximately 34.13 per cent business is now normal as compared with 30 per cent in February. Business above normal during March was 17.64 per cent against 19.99 per cent in February. About 48.23 per cent business is below normal, which is a decrease of 2 per cent when compared with February figures. Business showing steady improvement totals 62.50 per cent, which is a big increase over the February record of 49.18 per cent. Only 8.75 per cent is on the decline, while 28.75 per cent is stationary.

### Changes in St. Paul Trade

ST. PAUL, April 7—A \$100,000 warehouse for assembling and storage of Fordson tractors is to be built by W. H. Schmelzel of W. H. Schmelzel Co., Inc., who has distribution of the tractor in Minnesota. A tract has been bought for \$50,000 on Great Northern trackage, embracing 10 acres. Already this company has sold 2000 Fordsons, and its facilities for handling this business are inadequate. The building will be one story and 40,000 sq. ft.

The White Co. has leased for 99 years "Death Corner" at Pleasant Avenue and Third Street, and will build an oil station. The city has taken 20 ft. to open the street that fatal automobile accidents there may be avoided in the future.

The Hubbard Motor Sales Co., Maxwell and Chalmers dealer, has moved to 200 West Fourth Street from Seventh and Exchange Streets. W. F. Schornstein, supply dealer at 217 Bates Avenue, has taken the agency for the All-American truck in three counties.

### Government Not Exempt from Revenue Tax

NEW YORK, April 7—It is likely that the Internal Revenue Bill will hold that sales of passenger cars and trucks made to the Federal Government, or to the various State governments, are not exempt from the new war revenue tax. Under neither the old nor the new law are there any provisions specifically exempting the Government. Under the old law, however, government purchases have been held to be exempt. Under recent interpretations of the new law such

sales apparently are not exempt. It is pointed out, however, that when dealers are approached by a State regarding the purchase of a car the dealer may pass the order along to the factory and act as a commission man, instead of taking title to the car, and then resell it. The National Automobile Chamber of Commerce points out that under such a plan no tax will apply.

### Fight Double License

DAVENPORT, April 3—To protect automobile owners and drivers of the quad-cities from unjust administration of automobile laws the Interstate Motor Vehicle Protective Association was organized at the Rock Island Club Wednesday evening. Present at the meeting were twenty representatives of fourteen tricity business and commercial organizations. It was decided that an attempt should be made immediately to eliminate the double license system as it applies to motor vehicles used in interstate business.

An attempt will be made to obtain the co-operation of the authorities in the tricity and East Moline in adopting a common policy of licensing trucks and passenger cars, so that a dual system will not be necessary for traffic between the two States. If the new society cannot bring about a mutually agreeable system an appeal will be made to State legislatures of Iowa and Illinois to make necessary changes in the automobile laws of those States to insure protection of the drivers and owners of cars.

An executive committee to include two members from each of the quad-cities was formed. It will outline plans and make a preliminary report at a meeting to be held the first part of next week. Officers of the new association will also be announced at that time.

The consensus of opinion among those attending the meeting Wednesday was that the quad-cities formed a large enough community to forget the selfish interests of any of the four cities and to work for a bigger and better community. The principal plan now is to eliminate necessity of a double license for interstate trucks. Other interests of motor vehicle owners will be considered as occasion demands.

Davenport was represented at the meeting by William Ritter and L. M. Marks, Davenport Commercial Club; R. E. Hannon, advertising bureau; R. E. Beedee, W. L. Mason and Forest Frasier, Davenport members of the Tri-Cities Automobile Trades Association, and John Ploehn, Davenport Rotary Club.

### Carlisle Cord Tire Putting Up Plant

STAMFORD, CONN., April 7—The Carlisle Cord Tire Co. will establish its principal factory here, and has purchased about 10 acres of land, with a frontage of 1000 ft. on Fairfield Avenue and a depth of 400 ft. It is expected to be in operation by Aug. 1. At the outset it will employ 250 men. The company has had a plant at Andover, Mass., for two years, and intends to continue it in operation, although the main factory and executive offices will be moved here.

## WILLS AND LELAND CARS ARE IN THE AIR

*Former Ford Man Said to Be Experimenting—Leland's Car May Be a Six*

DETROIT, April 4—Automotive business circles are awaiting with keen anticipation the outcome of a number of important developments this week, interest centering in General Motors, Saxon and Maxwell-Chalmers affairs. The trade is also discussing rumors of a new car to be brought out soon by C. Harold Wills, formerly with the Ford Motor Co., and one of the designers of the Ford car. The labor situation and the veiled plans of the Lincoln Motor Car Co. are also causing much speculation.

The advisory committee handling Saxon affairs will meet immediately and declare the present stock forfeited and reorganize according to the plan already outlined. This step has been taken because of the apparent lack of interest of stockholders and the failure of repeated efforts to get them together. This plan, as already stated, will virtually wipe out the \$6,000,000 stock of the company and will call for an issue of \$2,000,000 in bonds, \$1,500,000 preferred stock and \$3,200,000 common. Creditors will receive common stock in return for their obligations. The committee will meet this week either here or at Chicago to take action necessary to authorize the reorganization.

The plant is turning out between 40 and 60 cars daily and orders are already two months ahead of production.

Detroit knows but little about the proposed Maxwell-Chalmers merger which is said to be steered by the General Motors Corp., and which, if materializing, will practically give General Motors control of the two companies. It is said General Motors will refinance the combination, taking over all of the common stock of the companies. W. C. Durant and other General Motors heads have nothing to say regarding the plan at this time, and no information is being given out at Maxwell-Chalmers headquarters.

It is said, however, that Walter Flanders, president of the Maxwell Co., which is operating the Chalmers properties under a 5 year contract, is soon to resign from the company. It is added that he is disposing of all his Detroit properties and proposes to locate in Chicago. Mr. Flanders himself is not discussing the matter.

Those close to C. Harold Wills declare he is working on a new passenger car and is soon going to give the trade a big sensation. Two cars are under construction, it is said. One of them is an experimental passenger car and another is a racer designed to make its debut in the coming Indianapolis races.

The Lincoln Motor Car Co., owned by Wilfred and Henry Leland, is getting ready to enter the passenger car field. This company is building up its sales and advertising force, but details of the



proposed car are being kept in the dark. It probably will be a six-cylinder machine to sell at a popular price, and will make its appearance in mid-summer, it is said.

There is quite a labor organization movement in Detroit. While labor was always strongly organized here, this spring is witnessing the birth of more union organizations than usual. The movement is spreading more rapidly in the factories themselves, where the different trades of individual plants are forming their own organizations. The machinists at Dodge Brothers, for instance, have their own organization now.

The greatest movement, however, is the formation of the Automobile Workers Union, designed to take all men and women engaged in any department of the automobile manufacturing business. This organization is growing rapidly and is conducting extensive membership campaigns.

There is also a movement on foot for a 6-hour working day. This movement is springing from an unknown source. The American Federation of Labor, which maintains headquarters in Detroit, know little of the 6-hour question, and it is apparent that it is not being pushed by that organization. It is said that the 6-hour plan is being tested in several local factories, but an exhaustive inquiry fails to locate these factories. It is denied that 6-hour shifts are in operation at the Ford Motor Co., although rumors to that effect persist in gaining circulation.

#### Official Indianapolis Entries to Date

NEW YORK, April 7—Ralph DePalma in his special Packard, equipped with an engine having a piston displacement of 299.2 cu. in., has entered his name for the Indianapolis events on May 31. Louis Chevrolet will also race in a special model, which is presumably a Frontenac, and has a piston displacement of 299.5 cu. in. Another Frontenac special, with a displacement of 299 cu. in., will be driven by Ralph Mulford. Three Duesenberg specials have been entered, one a Roamer-Duesenberg to be driven by Kurt Hitke, the other two by Tom Milton and Ed O'Donel. Earl Cooper will drive a Stutz. Besides these, as already reported, W. W. Brown will race in his 24-valve Hudson, R. C. Durant in a Chevrolet, and the two Sunbeams will be piloted by J. Chassagne and Dario Resta, who will take Joseph Christiaens' place.

#### Fire Visits Arkansas Appliance

LITTLE ROCK, April 7—Fire destroyed the warehouse and office building, including stocks, of the Arkansas Automobile Appliance Co. during the evening and night of March 17. The loss of stock and fixtures totaled approximately \$160,000, which was practically all covered by insurance. The officers of the company have arranged to continue the business. A temporary salesroom has been secured and full stocks of goods have been ordered by wire and letters from all factories.

## NEW YORK TO STAGE FIVE TRACTOR TESTS

### Will Put On Demonstrations in Central Localities—To Be Largely Exhibits

ALBANY, N. Y., April 5—The State of New York is contemplating five tractor demonstrations during the coming season, all of which will be directly staged for tractor manufacturers and not for dealers and distributors as entrants. The exact dates of these demonstrations have not been scheduled as yet. The plan is to have 2-day demonstrations so that there will be one or perhaps more devoted to plowing and the second day for fitting. The two days will give a better opportunity of obtaining accurate records of performance than the acre or hour tests of last year.

The demonstrations will be divided over the State, with one for the western section, which probably will be in the vicinity of Batavia; one in the central will be held at Syracuse, and will have to be at the same time as the State fair. This would not be so important a demonstration from the standpoint of performance but would be more in the nature of an exhibit. One would be in the eastern portion of the State, possibly in the area of Hudson; the fourth would be held in southern New York State in the vicinity of Elmira, and the fifth in the northern portion of the State in the zone of Malone or thereabouts.

The State of New York at present owns 70 tractors, and during the past winter established three repair depots, where these tractors were all overhauled. These were in Syracuse, Ithaca and Albany.

#### Sworn Car Descriptions Required in Pennsylvania

HARRISBURG, Pa., April 3—The House has passed the Cox bill requiring the making of sworn descriptions of all motor vehicles offered for sale. This is one of a series of measures calculated to stop the theft of automobiles and trucks.

#### Greenfield's Second Show in Armory

GREENFIELD, MASS., April 7—Cars, trucks and tractors were part of the second motor show held here at the State Armory. Dealers and distributors staged their own displays, which included the principal makes of motor vehicles of all kinds.

#### Pulitzer Trophy for Airplane Contest

NEW YORK, April 7—A Pulitzer trophy, to be offered annually for airplane competition, has been offered by Ralph, Herbert and Joseph Pulitzer, Jr., according to a statement made by the Aero Club of America. The nature of the competition will be decided yearly by the Aero Club. This year it will be awarded

for the longest non-stop from any point to Atlantic City, or from Atlantic City to any other point, during May, while the Aeronautic Convention is going on there. The prize will be held for a year by the winner, but must be won three times to become the permanent possession of the competitor. The Pulitzers publish *The World* and *The Evening World* and *St. Louis Post-Dispatch*.

#### National Truck Sales Managers Convention

PHILADELPHIA, April 5—Prominent men who will address the convention of the National Association of Motor Truck Sales Managers at the Bellevue-Stratford, April 11-12, are as follows, according to arrangement made by the committee:

Senator John L. Watson of Indiana; Governor Sproul of Pennsylvania, who will speak on "Good Roads"; Colonel Fred Glover, chief of the Motors Division, Quartermaster Corps, United States Army, whose topic is "The Disposal of the Government's Trucks and Other Matters of Vital Interest to the Truck Industry"; John Barrett, director general of the Pan-American Union and former minister to Argentina, Colombia and Panama, who will speak on "Central and South America—the Great Opportunity"; Reuben O. Moon, who will act as toastmaster; J. E. Tracy, president of the National Association of Motor Truck Sales Managers of Milwaukee; John S. Cravens, chairman of the highway transport committee of the Council of National Defense, and H. Walton Heegstra of Chicago. Lee J. Eastman, president of the Packard Motor Car Co. of Philadelphia, will welcome the visiting delegates on behalf of the Motor Truck Association of Philadelphia, the Philadelphia Automobile Trade Association and the Chamber of Commerce. Mr. Tracy will respond. A long list of speakers on strictly trade topics has been prepared, to cover both days.

#### Cost of Motor Truck Operation

PHILADELPHIA, April 5—"Cost of Operation of Motor Trucks" is the topic selected for a series of discussions to be held in conjunction with the monthly meetings of the Motor Truck Owners' Association of Philadelphia, the first of which will be held on the night of April 8 in the Bellevue-Stratford. The meeting will be open to all motor truck owners and operators.

George H. Pride, president of the Heavy Haulage Co. of New York, and who is a member of the highways transport committee of the Council of National Defense, will lead in the discussion. Information compiled by an association committee will be used as a basis for constructive criticism in arriving at a fair average cost for the operation of various types of trucks on different kinds of business.

#### Elgin to Build Canadian Plant

WINNIPEG, MAN., April 7—The Elgin Motor Co. will build an assembling plant here to cost about \$100,000.



## ST. LOUIS TO ABATE MOTOR CAR ACCIDENTS

### *The 92 Firms in Accessory Dealer Association Enlist in Definite Campaign*

ST. LOUIS, April 7—The 92 firms associated in the Motor Accessory Dealers' Association of St. Louis have announced that all of them have enlisted in a definite campaign against motor accidents. This announcement is made in formal communications to the newspapers by Robert E. Lee, secretary of the association.

This step is taken because a means has been found whereby each dealer and his employees can have a definite part in this campaign. This is brought about by a blank form, which will be carried by each person enlisted. This form designates the traffic offense notices, when and where, and is signed by the person reporting it. It is sent to the Board of Complaint at the City Hall, and will be kept on file. When any driver is arrested for speeding, or other offense, the judges of the city courts have agreed to refer to this file in the Board of Complaint office. If there are many complaints filed there, the defendant will be considered an old offender and punished accordingly.

It is expected that the Dealers' Association, the Commercial Vehicle Association and the garagemen's associations will join in this movement, as the number of accidents is coming to be a serious factor in restrictive law making and, it is feared, will materially affect the motor car business.

The first step in the promotion of the campaign will be to have street car motormen and conductors instructed to watch for machines and report those that pass street cars while the latter are stopped to let off passengers. Policemen will also be enlisted to report such infractions of the law as they see and for which they are unable to make arrests because the motor car moves away from them. The cards will be supplied by the Safety Council, an organization under the protection of the Chamber of Commerce.

### White Sales Increase 53 Per Cent

CLEVELAND, April 2—Gross sales of the White Motor Co. increased 53 per cent in the year ending Dec. 31, 1918, over sales for 1917, the increase being \$13,810,348. After deducting federal income, war and excess profits tax, the profits for the year were \$6,380,585. A further deduction of the reserve for federal income, war and excess profits tax, estimated at \$3,700,000, and dividends of \$1,280,000, leaves a balance for the year 1918 of \$1,400,585. This compares with \$2,520,308 in 1917. The decrease is caused by the larger federal taxes. The company has sold in all to the Allied nations, including the United States, nearly 18,000 trucks at a valuation of

over \$52,000,000. At the time the armistice was signed there were, in addition to these, 5700 trucks on order with a valuation of approximately \$16,000,000, which were canceled.

### Building Boom Hits Des Moines

DES MOINES, April 7—A glance at the new building operations in which Iowa motor car dealers are interested, and which have been announced during the past week, shows very conclusively how the Hawkeye State motor car interests have recovered from war-time conditions. There never was a time in the history of the State when building activity among the car dealers was greater.

The most pretentious building announced during the week is that to be erected by the Oelwein Auto Co., Oelwein, Iowa. The new structure will be two stories, brick, with all the latest improvements for a thoroughly modern salesroom and garage. It will cost \$60,000. The Standard Oil Co. will start operations at once on the construction of a \$20,000 filling station and garage at Davenport. The Kruideneir-Cadillac Co., Des Moines, has taken out a building permit for a \$30,000 plant, but work is temporarily held up on account of decision to change the location. At Sioux City Gurchow Brothers will erect a building 50 x 150 to cost \$13,000, and Albert Wittman of Humboldt has arranged for the construction of a two-story garage building to house his tractor business. In addition to these major building operations no less than six smaller buildings in Iowa towns were announced during the week.

### Louisiana to Continue Bour-Davis

SHREVEPORT, LA., April 7—The Louisiana Motor Car Co. has taken over the production of the Bour-Davis and is now putting through a run of 33 jobs and will bring out also a 2-2½-ton truck; 100 of these are now going through. The company has been in existence for a year and in actual production for about 4 months, and has produced to date 24 cars and 2 trucks. W. F. French is general manager of the company, which is capitalized at \$1,000,000 and headed by T. H. McGregor. Other officers are: E. C. Rhodes, vice-president; factory manager and engineer, William Ross; chief designer, A. L. Vargha.

### Women Are Selling Liberty Cars

DETROIT, April 4—The sales organization of the Liberty Motor Car Co. now includes two prominent women distributors. They are Mrs. Hope L. Gordon, manager and owner of the Onondaga Garage, Syracuse, and Mrs. C. H. Kenyon, manager and owner of the C. H. Kenyon Sales Co., Utica.

### Spencer-Carroll Moves

DALLAS, April 5—The Spencer-Carroll Co. has moved from Waco, Tex., and will now operate its wholesale business in automotive equipment from that center.

## GENERAL MOTORS TO SPEND \$37,398,000

### *Will Expand Plants in Detroit, Flint, Pontiac, Saginaw, Toledo and Elsewhere*

DETROIT, April 3—General Motors Corp. expansion plans for 1919 were outlined to-day by William C. Durant, president and general manager of the company. They entail an expenditure of \$37,398,000 to be invested in new plants, additions, office and sales buildings and new equipment in Detroit, Flint, Pontiac, Lansing, Saginaw, Toledo, St. Louis, Janesville, Bristol, Conn., and Muncie.

Detroit will get the lion's share of the appropriation; \$12,650,000 is to be spent here. General Motors expansion in Detroit includes a complete new plant for Cadillac, a sales and service building for the same company, a \$5,000,000 15-story general office building for the General Motors Corp. and all its subsidiary units, and a four-floor research laboratory, a differential gear and transmission plant, a power plant, extensions to the Central Forge Co. and the Northway Motor & Mfg. Co. plant.

The proposed office building will cover an area of 482 x 336. In the center of the building and on the ground floor there will be an auditorium seating approximately 1000, with stage, dressing rooms, etc. It will be used for conventions and other purposes. The entire building, including laboratory, will have a floor area of about 875,000 sq. ft. It will be strictly fireproof.

General Motors will spend \$6,715,000 at Flint, where large plant extensions to the Buick and Chevrolet companies are proposed. The remainder of the appropriation will be used to build 1000 homes for employees, with water mains, sewer systems, paved streets, etc. The money invested in the homes will ultimately return to the coffers of the company inasmuch as they will be sold to the workers on an easy payment plan.

Lansing projects total \$2,540,000. A new axle plant will be built and large extensions made to the Olds Motor Works division. At Saginaw \$2,427,000 will be spent in extensions to the Central foundry, motor and steering gear departments for the Saginaw Products division, and a central heating plant. Toledo will get \$543,000, to be invested in extending the transmission department of the Chevrolet Motor Co. branch factory there. A new plant will be built for the St. Louis Woodworking Co. at St. Louis, Mo., as well as large assembling plants for the Buick and Chevrolet division in that city. These improvements will cost \$4,135,000.

Janesville projects total \$4,500,000, and include plant extensions for the Janesville Machine Co., the Samson Tractor Co. and hundreds of houses for employees. At Bristol, Conn., \$1,028,000 will be spent in extending the present plant of the New Departure Mfg. Co. At Muncie, Ind., \$800,000 will be spent



in plant extensions and houses for employees.

Durant also said that Walter P. Chrysler, now president and general manager of the Buick Motor Car Co., Flint, has been made vice-president in charge of all General Motors operations and assistant to Durant. This new arrangement does not involve any material changes in the policy of the independent management of the General Motors division, which has been so great a factor in the extraordinary development of the corporation. The central operating organization, headed by Mr. Chrysler, will direct the carrying out of the broad policies of the corporation.

Chrysler will be succeeded as general manager of the Buick by Harry H. Bassett, who has been associated with Mr. Chrysler as assistant general manager for several years.

#### Overland Has Record Year—Profits Total \$11,510,645

TOLEDO, April 4—The profits of the Willys-Overland Co. for the year ending Dec. 31, 1918, amounting to \$11,510,645, were the largest in the history of the company. The net income, after deducting all charges and taxes, amounted to \$5,536,254, which is equivalent, after paying preferred dividends, to \$2.54 a share earned on the common stock as compared with \$3.16 earned in 1917.

The report states that all passenger car production had ceased on Nov. 1, 1918, and adds that the manufacturing plans for the coming year will be based upon a complete standardization of models and concentration on but two types. One of these will be the small four-cylinder car and the other will be a new Knight-engined car in the medium-price field.

#### U. S. Rubber Profits \$16,072,042

NEW YORK April 4—The U. S. Rubber Co. accumulated a net profit of \$16,072,042 during the year ended Dec. 31, 1918, thereby establishing a new record in the history of the company. This profit is after the deduction of federal taxes, interest and dividends amounting to approximately \$28,251,000, and is equal to \$30.81 a share on the \$36,000,000 of common stock as compared with \$28.77 earned in 1917. Sales increased from \$176,159,694 in 1917 to \$215,398,425, or \$39,238,731. Net profits increased \$1,731,465 and the surplus is \$4,144,098 higher than it was in 1917.

#### Car Shipments Increase in March by 5000 Carloads

NEW YORK, April 3—Shipments of automobiles increased nearly 5000 carloads in March, 1918, over the same month last year. In March, 1918, the shipments totaled 16,728 as compared with 21,500 in March, 1919, according to figures presented before the monthly meeting of the directors of the National Automobile Chamber of Commerce.

## OREGON HAS PROBLEM TO GET MOTOR CARS

### *Trade Has Come Back Wonderfully—Used Cars in Demand —Good Truck Market*

PORTLAND, ORE., April 5—The motor car business in Oregon has recovered so rapidly from war conditions that for the present the problem before dealers is not so much selling cars as getting them to sell at any price.

Without seeming to abate in the least the call for new cars, there is a remarkable market for used cars, even old models. This demand is almost as heavy as last spring and summer, when the shipyards were in full operation and hundreds of shipyard workers purchased used cars.

New car prices are not handicapping, at least noticeably, the return to normal business conditions in the motor car field. Dealers have imbued prospective purchasers with their own belief that there will be no price decrease this year, and that to put off buying in the hope of buying more cheaply in a few months means simply to do without a car indefinitely.

Virtually all dealers in Portland, the distributing point for the State, report heavy sales in February and March, usually quiet months here because of wet weather. Not only were February and March sales heavier than a year ago, but sales in these months actually compared with maximum sales for any previous month in the history of the trade here.

To illustrate: H. M. Covey of the H. M. Covey Motor Car Co., Cadillac and Dodge distributor, had left only one Cadillac car last week, and it had been sold but not yet delivered. His organization has sold already Dodge cars that have not left the factory.

H. H. Eling, manager of the Willys-Overland-Pacific, Inc., branch in Portland, said: "February was one of the heaviest selling months in the history of our organization. March sales give indication of exceeding those of any previous month, with our motoring season only beginning. There can be no doubt that this will be the greatest motor car year the Pacific Northwest has ever had, and the only drawback is the certainty that the factories cannot supply enough cars."

"Our organization is not alone in experiencing this heavy demand. Every dealer and distributor is reporting similar conditions."

Though many shipyards have closed, and others are operating with fractional crews, Oregon and the Pacific Northwest generally are prosperous. The lumber market, which fell off considerably after the armistice, is picking up. Agriculture is Oregon's next greatest industry, and with wheat prices again guaranteed by the Government, and other food products in demand, the ranchers and farmers are prosperous.

This in part, at least, explains the

heavy demand for cars. The people generally have money and are willing to spend it. Another factor is the constructive good roads program enacted by the recent legislature, work on which has started, and under which \$27,000,000 to \$30,000,000 will be expended on roads in this State by the end of 1921.

The foregoing applies to passenger cars. A slightly different situation exists in regard to motor trucks.

Oregon became a real field for motor truck sales only within the last two years, when a start was made on a State-wide road paving program. Previously roads had been so bad as almost to prohibit motor truck operations outside of a few towns.

With 60,000 passenger cars in the State last year there were only 2300 trucks. This number has now increased to approximately 3400, with a rapidly growing demand resulting from extension of good roads and truck educational campaigns by the dealers.

But last month a temporary setback was given the truck dealers by the sudden action of the Spruce Production Division in dumping on the market and calling for bids for all the trucks it has used in its extensive spruce operations. The Spruce Production Division, while officered and operated by army officers, is a separate corporation not directly under the War Department, hence not bound to abide by the War Department policy of withholding army-owned trucks from the market.

After having called for bids, the Spruce Production Division rejected all bids received as being too low, and announced the policy, now being carried out, of selling its equipment to private bidders.

This has resulted in a scramble of bargain hunters for between 250 and 300 trucks of various sizes and makes. As an example of its effects, one large paving contractor who was in the market for additions to his truck fleet last week purchased seven used Packard 5-ton trucks from the Spruce Production Division.

This has naturally had its effect on the truck business. While inclined to feel a little resentful of the action of the Spruce Production Division, so at variance with the War Department policy in regard to army-owned trucks, the dealers are meeting the problem by more energetic sales work. They expect the situation in a measure to adjust itself presently with absorption of the Spruce Division's second-hand offerings, and that with the opening of the \$30,000,000 road program work, and a general industrial awakening in the State, the market will not long remain depressed.

#### Tarrytown Addition for Chevrolet

NEW YORK, April 7—The General Motors Corp., Chevrolet division, has awarded the contract for the erection of a three-story reinforced concrete enamelling and assembling plant on its Tarrytown, N. Y., property. The building will be 220 x 80.



# Indianapolis Wants Cars! Cars! Cars!

**And in One Week Seven Dealers Sold \$52,000 Worth of Cars—City Is Buying Trucks and Tractors**

*Special Report to Motor World by John B. Orman, Manager of the Indianapolis Automobile Trade Association*

INDIANAPOLIS, April 3—Nearly all the dealers are in transit between Detroit, Toledo, Buffalo and Cleveland looking for cars, cars, more cars, and then some more cars. This seems to be the battle cry of Indianapolis dealers.

At this writing the city has been having most beautiful weather and all outdoors has been sending invitations to the prospective motor car purchasers, to get that car and come out in the open, and it seems as though a good portion of Indianapolis citizens have accepted the invitation.

John Boyd of the Conduitt Auto Co., dealer in Chalmers and Peerless cars, has sold thirty cars since a week ago Monday. The Oakland people, the Hudson-Essex, the Buick, Cadillac and Studebaker people are all delivering as fast as they receive. The Oakland Motor Car Co. has driven overland from the factory in Pontiac during the past week 124 cars, with thirty-five more on the way to-day.

The used-car business is extremely brisk. Seven new car dealers in one week sold \$52,797 worth.

## Truck Business Good, Too

Truck dealers are also reporting business as entirely satisfactory; the best deal of the past week among the truck men was with the city. The Service Motor Truck Co. received orders for two motor power flushers. The White Co. will supply two street oilers, the price being \$14,530. The Fisher Auto Co. received the contract for two motor gravel trucks, the price named being \$11,904.70. The Indiana Parrett Tractor Co. will supply four tractors to be used in contemplated road work at a cost of \$5,424.

The Schlosser Bros. Creamery Co. of Indianapolis placed an order with the Martin Truck Co. for five Stewart trucks to add to their fleet of Stewarts, making seven Stewarts purchased by this firm during the past sixty days.

The Brown-Rowan & Buck Sales Co. has changed the name to The Buck Co. This company handles the Studebaker, also the Autocar and Diamond-T trucks. It has almost doubled the size of the salesroom and now has one of the largest and most beautiful display rooms in the Central States. C. E. Lewis, for several years with the Lyons-Atlas Co., has been appointed sales manager of The Buck Co.

After long being identified with the Lathrop-McFarland Co., distributors of the Cole and Maxwell, Ralph M. Hamilton has been promoted to the position of sales manager.

The Universal Accessories Co., one of the live wire youngsters in the accessory business here, has increased its capital stock from \$10,000 to \$100,000.

The Van Briggles Motor Device Co.,

maker of the Van Briggles carburetor, has increased its capital stock from \$300,000 to \$500,000. The increased capital will be used to erect a modern manufacturing plant and for the purchase of additional equipment.

## Went at It Big!

WILKESBARRE, PA., April 3—One of the most spectacular trade affairs that has been held in this section for some time was promoted by the American Auto Supply Co. in opening an enlarged place of business at 37 and 39 West Market Street.

The proprietor, Charles S. Weissman, formerly conducted a store in which he sold Ford parts and automotive equipment. He recently secured the store next door, fitted up the interior in modern style, with modern fixtures and show-cases, and is devoting the new section to a general line of automotive equipment.

He put on what he called a "Show of \$100,000 Automobile Stock," and ran the demonstration for one week. Large advertising space was used in the newspapers, and the Wilkesbarre papers gave a lot of publicity to the proposition. Wednesday night 187 dealers and other people interested in and connected with the trade attended a banquet as Weissman's guests at the Hotel Sterling. Included in the crowd were quite a number of bankers and newspaper people. Thursday night at his show was society night, and all his employees wore evening clothes.

Considerable trade enthusiasm was aroused, and one night at the show he secured 25 memberships for the Wilkesbarre Automobile Club, which is more than the club has secured in the past year, and he also secured quite a number of members for the Wilkesbarre Automobile Dealers' Association. Cut flowers, palms and ferns and flags were used to decorate his place of business.

## Hudson Doubles Car Production

DETROIT, April 7—The Hudson Motor Car Co. launched into its second quarter production by increasing its output of both Hudson and Essex cars. From 2500 machines of each make last month this company jumps to the 3750 production basis, and hopes to turn out 7500 complete jobs of both makes in April.

## First Oregon Mechanics Examiner

PORTLAND, April 7—M. L. Granning of Oregon Agricultural College, an expert on gas engines and motor car mechanics, will be named by Governor Olcott as one member of the new Oregon Board of Automobile Mechanics Exam-

iners. Under a law effective May 29, this board will examine all motor car and truck mechanics in the State, and will license those found qualified. Mechanics not able to pass the examination will not be permitted to work for hire on cars or trucks.

## Magneto Makers Band Together

NEW YORK, April 7—Five of the principal manufacturers of magnetos have banded together for the purpose of instituting a propaganda campaign to popularize the more extensive use of magnetos on various forms of automotive equipment. The association has established headquarters at 110 West Fortieth Street, New York. It includes Splittorf Electrical Co., Newark; Bosch Magneto Co., Springfield, Mass.; Simms Magneto Co., East Orange; Eisemann Magneto Co., Brooklyn, N. Y.; Ericsson Mfg. Co., Buffalo.

## Canada to Spend \$20,000,000 on Roads

TORONTO, April 7—The Federal Government of the Dominion of Canada will contribute during the next 5 years \$20,000,000 to the various provinces for the construction of good roads in addition to whatever direct expenditure it may make on highway construction, maintenance and improvement. Since the beginning of the war its chief highway construction work has been the building of over 500 miles of the 600-mile "Motor Trail of the Great Divide" through the Canadian Rockies, a motorway that in point of scenic grandeur is said to be second to none in the world.

## Coast Willard Men Gather

PORTLAND, April 7—Eighty service station dealers of the Willard Storage Battery Co. from Oregon, Washington, Idaho and British Columbia attended a convention here last week. In charge of the convention were W. W. Wyneken, sales manager of the Willard company; H. S. Bentley, sales promotion manager, and W. D. Conover, publicity manager. At the convention was shown a 10-reel industrial motion picture entitled "Through Service We Grow."

## American Pressed Radiator Corp. Elects

DETROIT, April 7—The American Pressed Radiator Corp. has elected the following officers: President, C. H. O. Meyer; vice-president, R. S. Drummond; secretary, John S. Irwin; treasurer, H. F. Hiney. Mr. Drummond was formerly vice-president and general manager of the Detroit Steel Products Co. and Mr. Hiney was associated with him at that plant.

## Willys Picks Men for Profit Split

TOLEDO, April 3—The committee of ten which is to work out the details of the Willys-Overland Co. 50-50 profit sharing plan which President John N. Willys recently announced for the Toledo factory has been appointed. Five members of the committee represent the factory end and five the executive departments.



L. M. Ellis is chairman of the committee and A. H. Sarvis secretary. Other members are: H. G. Fitch, sales and service department; Harry Bothart, first assembly department; L. A. Miller, administration building; J. R. Woodruff, polishing and plating department; W. J. Highley, compensation department; Wilfred H. Emery, tool room; Harry A. Webb, paint shop.

The method by which the employees will share in the profits of the company on a 50 per cent basis with the stockholders and the time they will receive the first payments will soon be announced, it is expected, at the factory.

#### Packard Buys St. Louis Dealer

ST. LOUIS, April 7—The Packard Motor Car Co. has taken over the plant of the Packard-Missouri Motor Car Co., and this plant will be conducted as a Packard factory branch, but is to be known as the Packard Motor Co. of Missouri. P. S. Russell of the Packard staff has been assigned to this branch as manager.

This new arrangement succeeds the organization headed by W. J. Parrish, who has controlled the Packard distribution here for several years. Parrish retains the Packard distribution at Kansas City and Cleveland. He has leased the former Studebaker branch building in this city, and will there open a paint shop. Paint work had been a strong feature of the Packard-Missouri Motor Car Co. work here.

#### Holdrege Show Draws 6000

HOLDREGE, NEB., April 1—The third annual Holdrege Automobile Show closed last Saturday night after a three-day run. More than 6000 persons, or double the population of Holdrege, attended the show.

The Holdrege show is held annually in the little prairie town's big auditorium, which was built by a stock company in which the farmers in the surrounding territory are shareholders, which creates a personal interest in every event held in this building.

A mild winter and favorable spring foretell a wonderful year for western Nebraska car and truck dealers. A number of sales were closed during the show.

#### 30 Samson Tractors Daily by July

DETROIT, April 4—The Samson Tractor Co., Janesville, Wis., will begin operations in three weeks and by July 1 approximately 1850 Model M tractors will have been completed and shipped from the factory. It is expected by that time the company will be producing 30 machines daily.

#### Favors Tunneling Boston Common

BOSTON, April 5—So acute has become the parking situation in Boston that Henry B. Hagan, one of the members of the Boston City Council, has come out with a suggestion that Boston Common be tunneled to provide parking spaces.

## BOSTON GARAGES FORM ORGANIZATION

### *Now Have Membership of 500 —Plan to Extend Body to Cover New England*

BOSTON, April 5—The Garage Association of Metropolitan Boston is the latest addition to the organizations in Massachusetts. It now has a membership comprising active and associate members of more than 500, and it plans to extend its activities throughout Massachusetts first and later all over New England. It has been in existence but a short time, and the owners of all the big garages in the city have joined it. A few days ago it showed its strength when a bill was before the legislature to put restrictive legislation on garages. Members from Boston, Worcester, Springfield and other places were on hand, and they made such a strong showing that the bill was killed. On April 22 the association is to have a big dinner at the Hotel Brunswick, when it will have as speakers John R. Murphy, fire commissioner of Boston; Frank L. Lewis, fire prevention commissioner of the Metropolitan district, and Walter L. Wedger, the State expert on combustibles. James N. Scully is president; W. F. Bennett, treasurer, and H. R. Tosdal, secretary. The organization is considering affiliating with other garage associations throughout the country, such as the big association at Chicago. Its officers and members plan a campaign to disabuse the public mind that garage owners are out to get everything they can from the motorists.

#### Tractor Demonstration for Walla Walla

PORTLAND, April 7—Under the joint auspices of the Pacific Northwest Tractor and Power Farming Association of Spokane, Wash., and the Implement and Tractor Association of Portland, Ore., with the University of Idaho co-operating, a tractor and power farming demonstration will be held in Walla Walla, Wash., on April 23, 24 and 25. The Governors of Washington and Idaho have issued proclamations and the Governor of Oregon has given indorsement to naming these dates as farm power and tractor week.

#### Business Booming in Massachusetts

BOSTON, April 5—Some idea of the way the motor business is booming in Massachusetts is found in the figures of the Highway Commission for the first 3 months of this year. Receipts from motorists reached \$1,522,786.66. For the same period a year ago it was \$1,190,962.55, or \$331,817.11 less. This is equal to 29 per cent. The Highway Commission officials say that with the rest of the year to register vehicles the total will be at least \$2,500,000 for 1919. There had been issued 113,000 plates for cars so far

this year. The highest number for the entire year 1916 was only 102,000, and the total in 1917 was 126,000. Last year it was 146,000, so that the 1918 figures will be overtaken in a short time. When it is considered that in 1911 the Highway Commission receipts for the first quarter of the year were only \$257,602.57, or about one-sixth of the figures for this year, it shows what a remarkable growth the industry has had in Massachusetts.

#### Accessory Dealers Relieved

BOSTON, April 5—Accessory dealers in Boston are very much relieved now since reading in Motor World the interpretation of what articles were to be taxed under the new revenue law. A couple of weeks ago they were all up in arms over the situation and no two men could reach an agreement on the matter.

When is an accessory not an accessory? was the big question.

Some of the dealers said that buyers of an oil can in a motor store had to pay a tax, while if they went next door to a hardware store there was no tax. And others claimed this was not so. How about a wrench, or a pan, or a sand pail, or a shovel, or a fire extinguisher, or a robe, or a cushion? many were asking. To buy these at department stores without a tax and to have to pay at an accessory store seemed as if someone had blundered at Washington. And one man's guess was as good as another's.

The tire situation was another enigma. What the dealers were afraid of was that buyers by figuring the tax, if according to wholesale or retail price, could do a little computation on their own hook and thereby see just what the tires cost the dealer. And as the profit was good in some cases they feared that buyers would attempt to force down prices by peddling around to get lower prices. In other words, trade secrets were in danger. Some of the dealers are still worried over this phase of the tax. And a few of them are trying to find out if they can absorb the tax, and if this would be legal. They are not out of the woods yet on that part of the tax. But they are much relieved at the interpretation Motor World gave them.

#### Barnes Leaves Parrett Motors

CHICAGO, April 8—Claire L. Barnes has resigned as vice-president and general manager of the Parrett Tractor Co. He was instrumental in the reorganization of the company a year ago and at that time took over the management of the company's affairs. Feeling that his work has now been completed, he has resigned to devote his time to the development of other interests. Mr. Barnes is a well-known figure in the industry, having been for years associated with John N. Willys in the management of the Willys-Overland properties. Management of Parrett production will be under an executive committee of three under the chairmanship of President Dent Parrett, who recently retired from the service as a captain of the Ordnance Department.



## INSURANCE NOW FOR ABANDONMENT OF CAR

**Company Will Protect Dealers  
Who Sell on Time—Buyer  
Pays the Premium**

KANSAS CITY, April 7—A new kind of insurance on motor cars and trucks which has been made available in the past 18 months removes the one element of danger that yet remained in the financing of car sales.

This insurance provides, in return for a small premium, the payment by the insurance company of the unpaid notes held by dealer or banker, when a car or truck is damaged by collision and abandoned by its purchaser.

This sort of insurance is paid for by the purchaser when he buys the car, the charge being included among the other various items involved in arranging for the time sale. The dealer usually requires that the purchaser take fire and theft insurance and some other coverages, but is not often successful in his effort to get the buyer to add collision insurance.

The new kind of insurance protects the interest of the dealer (or of the banker or other person who may hold the notes). The policy costs \$5 to \$15, depending on the list price of the car. This premium is paid by the purchaser. But the purchaser has no interest in the indemnity. The policy explicitly guarantees to the dealer or holder of the notes that in case the car is damaged and abandoned the insurance company will take up the unpaid notes. The company is given possession of the car and takes its chances on salvage.

The "collision abandonment insurance" plan was originated by the Employers' Indemnity Corporation of Kansas City. It was the result of complaints made to Jack Thompson, manager of the automobile insurance department of the corporation, by dealer friends and bankers who had found wrecked cars thrown back on their hands by purchasers—often the notes having been sold to "innocent parties." E. G. Trimble, president of the corporation, evolved the insurance plan to protect the interest of the note-holder, primarily as a service towards stabilizing the motor car sales business, and incidentally as a means of demonstrating the completeness of insurance in guarding interests in property. The business of the company, so far chiefly with dealers and bankers, has grown rapidly.

### Show Building for Indianapolis

INDIANAPOLIS, April 7—The State Board of Agriculture has instructed architects to prepare working drawings for the new display building which will be erected on the State fair grounds and in which all future automobile shows will be held in Indianapolis. The recent Indiana General Assembly, at the solicitation of the automobile interests of the state, appropriated money for such a

building. The exhibit space will cover 2 acres. The building will be 250 x 320. The material will be fireproof, the exterior walls of brick, the promenade, roof and supports of reinforced concrete. The floors will be of concrete and tile.

### Olds Motor Producing 30 Trucks Daily

LANSING, MICH., April 3—Truck production at the Olds Motor Works is beginning to reach quantity figures. Although this company went into truck manufacture but two months ago, that division of operation is now in full swing, 30 machines of the  $\frac{3}{4}$ -ton type being completed daily. Truck sales are far ahead of production and it is going to tax the new department to the utmost to meet the trade demands. Passenger car production is now at the 140 daily mark. This is an increase of 40 per cent over February figures.

### New Automobile License in Indiana

INDIANAPOLIS, IND., April 7—The new automobile license fee law will become effective on the promulgation of the Indiana statutes when the laws are published soon, and not Jan. 1, 1920, according to an opinion handed to H. D. McClelland, head of the automobile department of the Secretary of State's office, by Ele Stansbury, attorney-general.

The new law changes fees collected for electric automobiles and for commercial vehicles. All other fees remain the same. The license fees of electrics are increased from \$3 to \$5. The law abolishes the old fee of \$5 for any commercially used motor vehicle and classifies motor trucks, arranging the fees accordingly, ranging from \$6 for a 3-ton truck to \$50 for trucks of  $7\frac{1}{2}$ -ton capacity. Trucks of more than 10-ton capacity are prohibited from using the state's highways. Trailers are licensed for one-half the fee of the truck to which they are attached.

### Use Two-Page Newspaper Ad

GALESBURG, ILL., April 5—The Galesburg Overland Co. and the Galesburg Machine Works, the former the selling company, held a three-day celebration and used a two-page ad in the *Republican-Register* recently in announcing the opening of a new building, which is one of the largest and best in Central Illinois.

The company in 1910 had an Overland contract for 28 cars and to-day advertises that it is the largest Overland distributor in Illinois. The principals in the company since its beginning are Arthur G. Miller, who is sales manager, and Fred Peterson, who manages service. The automotive equipment department has grown to such an extent that the P. & M. Accessory Co. has been formed to handle it, with R. W. Miller as manager. There is also the P. & M. Garage Co., which operates the garage department. The Taxicab Livery Co. is another of their enterprises. In connection with the opening there was a three-day function with a banquet.

## PRODUCTION NEARING NORMAL IN DETROIT

**Michigan - Ohio Plants Produced 5,748 Cars Daily—  
Lack of Material Hinders**

DETROIT, April 4—Automobile production in the States of Michigan and Ohio is nearing normal figures. During the month of March the daily output of 32 big factories was 5748 passenger cars. This is a big gain over February, during which month 4821 automobiles were produced. In the month of January, when the majority of the plants were just getting into commercial manufacture on greatly curtailed schedules, 2833 machines were built. The average daily production for the first quarter was 4467 cars. On a basis of 26 working days to a month these figures would mean an estimated total production for the first three months of the year of 116,142 machines.

Manufacturers are now beginning to talk in terms of annual production. A large number of the companies have drafted their production schedules for 1919. Others, while outlining production for the year, are not making them public.

The increase will be very noticeable during April. Packard will be in production. This company has put through its first car. Hudson will double its Hudson and Essex production. Buick hopes to attain the 600 daily production mark. Willys-Overland will begin to get production on its new light car. Oldsmobile and Reo propose big production increases. Studebaker is running up production approximately 40 per cent a month, while Ford will be hitting the 3000 mark. All of the smaller concerns, many of them not in full swing as yet, will increase their output materially.

In 1918 car production figures were 1,044,754 as against 1,737,151 the previous year. In 1916 production was 1,493,617 cars. Last year's output was the smallest since 1915. Normally the output increases at the rate of 40 per cent a year. Had this rate prevailed last year the output would have been 2,750,000 cars, or more than double what it actually was. Because 90 per cent of the companies were on war work and started the year under a great handicap, many production experts declare remarkable results will have been obtained if 1919 figures exceed the 2,000,000 mark.

Some of the Detroit companies are having trouble getting material and parts. This is not true in all cases, but in a number of instances it is badly curtailing production. The trouble seems to be due to the inability of certain parts makers to get back into peace production. Firms dealing with these concerns are therefore affected, while others are not. Lack of funds owing to unadjusted Government contracts and the unstability of the steel market are the big factors at the bottom of this trouble. The fixing of the steel prices by the Government is now relieving this situation, as



this market is beginning to gain confidence again even if the prices are a little high to suit the majority of the buyers.

For a few days following the fixing of the steel price by the Government the trade was uncertain and continued its hand-to-mouth buying policies. Now, however, the companies are beginning to purchase their steel in larger quantities. The immediate effect of the fixing of the price so far as the automotive industry was concerned was the stimulus it gave building operations. A number of the plants have placed orders for structural steel and there is going to be a healthy increase in factory construction.

#### Eliminate All Idle Fordsons

CHICAGO, April 8—The Rue Motor Co. has evolved a plan for tractor service which will insure that no machine will be idle for more than 24 hours. The company is Fordson representative in this territory and the plan was made public at a Fordson dealers' convention this week. Dealers are to carry in stock a sufficiently large stock of parts to insure immediate replacements and, if necessary, will replace the entire tractor while the damaged one is being repaired. More than 200 dealers attended the convention, which was addressed by A. E. Hildebrandt, president of the Tractor Distributors' Association of the U. S., who spoke on power farming requirements. John Fletcher, vice-president of the Fort Dearborn National Bank, addressed the meeting on "Farming from the Banker's Viewpoint."

#### Schumann Joins General Motors

NEW YORK, April 4—John J. Schumann, Jr., has accepted the position of assistant financial manager of the General Motors Acceptance Corp., the subsidiary of the General Motors group formed to finance its dealers. He was executive secretary of the distribution committee and assistant director of distribution of the Liberty Loan Committee for the Second Federal Reserve District, and his services with the government loan organization are being volunteered by the corporation.

#### Duplex Governor Chicago Office Moves

CHICAGO, April 4—The Chicago office of the Duplex Engine Governor Co. has moved from 220 South State Street to 28 East Jackson Boulevard.

#### International to Increase Output 200%

SOUTH BEND, IND., April 7—G. W. Odell was elected president and treasurer of the International India Rubber Corp. at a meeting of the board of directors, and he will continue the general management of the company. Other officers are: Vice-president, Peter E. Studebaker; secretary, J. A. Bennett. The officers and C. W. Truxell and J. W. Ridge form the board of directors.

It was decided at the meeting to go ahead with the plans made last year to extend the length of the main building to 967 ft. This extension with additional equipment will increase the output of the plant about 200 per cent.

## SOLDIERS CAN LEARN MECHANICS IN CANADA

### University of Toronto Prepared to Teach Returned Warriors—The Course

TORONTO, Ont., April 3—Many a returned Canadian warrior who has been wounded in action is now able to say that he has taken a "course" in motor mechanics or farm tractor work or in any one of two or three other subjects at the University of Toronto as the result of the establishment of a plan to re-educate disabled Canadian soldiers in the widely known Canadian institute of learning. One section of the university has become the University of Toronto School of the Department of Soldiers' Civil Re-establishment.

The soldier students are given the advantage of both practical and theoretical training under the guidance of professors of the university and special instructors who are qualified for the work. The ex-warriors are taught with textbooks and also with automobiles and tractors themselves. They are given both indoor and outdoor training. A large farm near the city of Toronto is used for practical experience in tractor operations, while a natatorium which was used by varsity students in pre-war days has become a garage and repairshop in which automobiles and tractors are taken apart, assembled and repaired.

The equipment of the University of Toronto for the motor mechanics and farm tractor courses is comprehensive. The old gymnasium has been converted for training purposes in these courses and resembles an automobile factory and repairshop all in one. In one room there is a Maxwell cutaway chassis, with which pupils are shown exactly how a touring car propels itself and is operated. This chassis was formerly a show exhibit, but it was loaned to the university by the Maxwell company for the re-education of disabled warriors.

In another department, formerly used as a swimming tank, are found various farm tractors in different conditions of assemblage. One may be all torn down and ready for reassembly; another may be ready for use once more, and another may be only partly dismantled.

Another interesting feature is that the Canadian Government has made it a practice to turn over apparently worthless motor trucks or other motor vehicles to the university so that the soldier-students may have something to tinker with. With the addition of a few new parts, these vehicles are once more restored to a working condition and placed in commission again.

Among the automobiles at the university for the motor mechanics' course are found several military Nash quads, a Chalmers touring car, a Kelly-Springfield military truck and a Ford delivery car. On the other hand, the university has some of the latest farm tractors for instruction purposes. These include

Cleveland, Case, Allis-Chalmers, International Harvester and Sawyer-Massey tractors.

An interesting detail is that the Russell Motor Car Co., Limited, of Toronto, has set aside a shop in which the soldier-students may learn machinestop practice. This special shop has a capacity for twenty-five men. Two special electrical courses were also arranged at the university so that the members of the motor mechanics or farm tractor courses may learn the inside of electrical equipment for automobiles or tractors, or a man can take the electrical course alone.

Some of those who have taken the course at the University of Toronto were farmers before they enlisted in the Canadian army. One of these men now "wears" a wooden leg, thanks to a Hun bullet at Vimy Ridge, but he has found it possible to resume farm life through learning how to operate a farm tractor at the university.

The automobile is proving an interesting study to many a returned soldier at various educational institutions across Canada. At Montreal, for instance, there is a "military school" at the Montreal Technical School, and since last October, when classes were started there, many veterans have succeeded in securing good positions as chauffeurs or mechanics with an average pay of \$22 per week, it is reported.

Much of the success of the motoring classes at the Montreal Technical School is due to J. H. Jeffery, who is also provincial examiner for chauffeurs in Quebec. He has given much of his time and advice to the instructors at the school and has taken a genuine interest in the soldiers and in their motor work.

At the University of Toronto the re-education of war veterans will go on without interruption in spite of the resumption of regular classes.

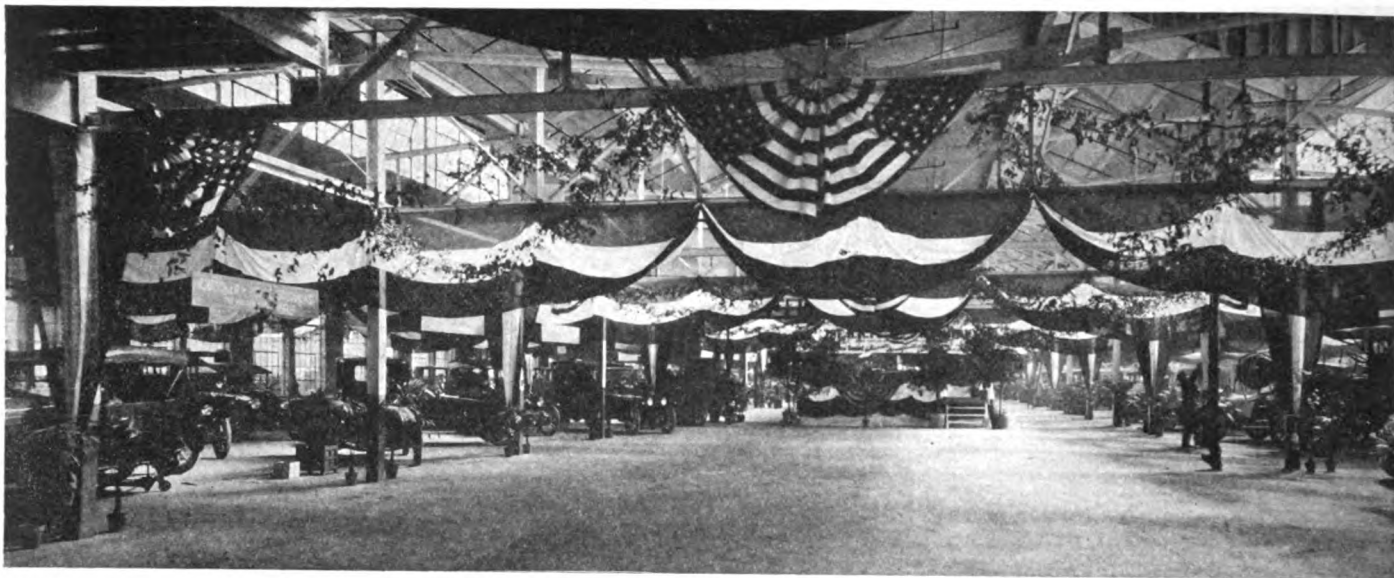
#### Moock Stirs Davenport

DAVENPORT, IA., April 3—A plea for closer organization in the automobile trade was made by Harry G. Moock, secretary of the National Automobile Dealers' Association, in addressing a big meeting of 65 Davenport, Rock Island and Moline motor distributors and agency men at the Commercial Club last week.

The speaker pointed out that it was only the efforts of the national association that had saved the industry from legislation by the last Congress that would have almost wiped the business off the trade map. He told how the manufacturers had been of great assistance to the Government in winning the war through their co-operative effort.

Secretary Woodworth Clum of the Greater Iowa Association spoke on good roads and the coming Victory Liberty Loan campaign. Mr. Clum described the inter-county road bill which has been planned to give Iowa the hard roads the automobile men have been fighting for for many years. He spoke of the Victory loan campaign as something which every organization must support for the public good and urged the tri-cities business men to give their unstinted support.





*Here is a section of the recent show in Dayton. The large central space was later filled with airplane exhibits*

#### Des Moines Dealers Hear Moock

DES MOINES, April 7—Harry G. Moock, secretary of the N. A. D. A., was the principal speaker at the monthly membership meeting of the Motor Trades Bureau of the Des Moines Chamber of Commerce last Monday night. Moock emphasized that the time has come when dealers must organize to foster and protect their own interests just as all other industries have done. Major Barndollar, a Des Moines dealer, who went to France in the first few months of the war, was the other speaker.

#### Three N. A. D. A. Field Secretaries

ST. LOUIS, April 7—W. H. Williamson, recently a motor car dealer, has accepted the appointment of N. A. D. A. representative in Texas. He will also represent the Texas State Dealers' Association, and will work over that State in this double capacity of organizer.

N. L. Tooker, recently discharged from the Army as a lieutenant after having advanced from the ranks, has been appointed traveling field secretary of the N. A. D. A. for the eastern division, with headquarters in New York City. Mr. Tooker was formerly an automobile dealer but recently was advertising man for the Bosch Magneto Co. for six years.

Robert E. Wagner, whose appointment as field secretary for Washington, Oregon, California, Utah, Idaho and Nevada was recently announced, has begun his work. Wagner is a former president of the Seattle Auto Dealers' Association.

#### Champion Assumes Federal Tax

TOLEDO, April 7—The Champion Spark Plug Co. has sent the following wire to its jobbers throughout the United States:

"We assume Federal excise tax on Champion spark plugs from Feb. 25. You need not figure this on sales to your customers."

## EMPLOYMENT BUREAU OPENED BY N.A.D.A.

### *To Supply Sales and Service Men—Has Advisory Adver- tising Bureau, Too*

ST. LOUIS, April 7—Two new departments are in operation at the N. A. D. A. offices here. They are:

1—An employment bureau for sales managers, salesmen and service managers.

2—An advisory advertising bureau.

The employment bureau will make every effort to eliminate the professional job hunter and to suggest only men who appear to fit into the place offered. The blanks that will be sent to the position seeker and to the employer to be filled out are somewhat different from those used by ordinary employment bureaus, but the service is different. The N. A. D. A. will make no charge for this service and hopes only to get its reward in checking the turnover in these important positions and the consequent disruption of organizations.

The advertising bureau is designed to eliminate an economic waste. Many dealers have admitted in correspondence to the N. A. D. A. that their advertising did not appear to draw as it should. They felt that there was something wrong with it, but they did not know what. The idea of this bureau is to criticize copy prepared by dealers and to suggest changes to give it the proper pulling power. This service is to members and is designed especially to help with the local copy that is used to supplement that placed by the manufacturers in nationally circulated mediums.

#### Soss in Charge of Detroit Branch

BROOKLYN, N. Y., April 5—Samuel Soss has been placed in charge of the Detroit branch of the Soss Mfg. Co.

#### New Orleans Joins N. A. D. A.

ST. LOUIS, April 7—While President Vesper of the N. A. D. A. was in New Orleans, the directors of the New Orleans Automobile Association voted the entire membership of the local body into the National. The New Orleans association will plan and execute, in co-operation with N. A. D. A. general offices, an extensive organization campaign in Louisiana.

#### Braender Rubber Arranges for New York Representation

NEW YORK, April 7—The Braender Rubber & Tire Co. has closed its branch office at 250 West Fifty-fourth Street, and has arranged with Ryan & Hughes, Inc., 1698 Broadway, to act as distributors for Braender tires and tubes in New York City, Brooklyn, Staten Island and Westchester County. The export department has been transferred to 315 Fourth Avenue until May 1, after which time it will be permanently located at 32 Broadway.

#### Edison Lowers Price of Batteries

ORANGE, N. J., April 3—The Edison Storage Battery Co. has reduced the price of types A, B and C Edison cells about 16 per cent.

#### Haynes Company to Increase Capital

INDIANAPOLIS, IND., April 4—The announcement comes from Kokomo that the Haynes Automobile Co. is to increase its capital stock from \$3,500,000 to \$5,000,000 and erect a new building, which will give more than 300,000 ft. of additional floor space. This increased space will give the Haynes plant an increased output of 15,000 cars annually. A. C. Sieberling, present general manager, has been elected vice-president. March Haynes, son of Elwood Haynes, president of the company, has been made assistant secretary and treasurer.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

**W. H. Diefendorf**, Syracuse, has resigned his position as chief engineer and director of the New Process Gear Corp. and is now with Weeks-Hoffman Co. of that city.

**I. B. Meers** has been appointed general sales manager of the Panhard Motors Co., Grand Haven Mich. He will handle export affairs as well as American sales.

**A. E. Vinton**, connected with the National Motor Car & Vehicle Corp., Indianapolis, for the past 12 years as assistant sales manager and later as export manager, has been appointed general sales manager for the New Jersey Car Spring & Rubber Co., Jersey City, N. J.

**S. X. Newman** has resigned his position with the Wright-Martin Aircraft Corp., New Brunswick, N. J., to become vice-president and sales manager of the Automatic Safety Tire Valve Corp., Long Island City.

**Lou J. Sackett**, a car salesman for the past 23 years, has resigned from the Cadillac Co. of New England. He has not announced his future plans.

**H. M. Green** has been appointed the Pennsylvania representative of the Precision & Thread Grinder Mfg. Co.

**Joseph E. Simpson** has been appointed New England representative of the Hudson Motor Specialties Co.

**F. T. Bachman** has been appointed New England representative of the Hudson Motor Specialties Co.

**George I. Breting**, Kansas City, Mo., formerly with Flynn & Breting, South Side Ford distributors, has bought an interest in the firm of Lemond-Thompson Motors Co., where he will be in charge of the retail sales end of the truck business. The company handles the Onelida and Packard trucks.

**S. W. Reese** has been put in charge of the Kansas City district of the Oldfield Tire Co. of Cleveland. The Kansas City district consists of Missouri, Kansas, Oklahoma, Colorado, Texas, New Mexico, Louisiana, Arkansas, Mississippi, and parts of Tennessee, Kentucky and Illinois.

**Lawrence W. Enos**, until recently a first lieutenant in the Quartermaster's Corps, is entering the organization of the Firestone Steel Products Co. of Akron as manufacturers' representative in the Detroit district. Mr. Enos' last connection previous to his enlistment was with the Steel Products Co. of Cleveland.

**Walter P. Hanson**, newspaper and magazine writer, has joined the Haynes Automobile Co. in the capacity of assistant advertising manager. Previous to this connection Mr. Hanson worked for Uncle Sam as an Ensign in the United States Naval Reserve Force.

**J. R. Hall**, for seven years production engineer with the Chandler Motor Car Co., Cleveland, has been named production manager for the Cleveland Automobile Co., which will bring out a new car this year.

**J. E. Duffield**, Cleveland, for many years in the tire business and later general manager of the Bailey Non-Stall Differential Corp., has been elected vice-president in charge of the sales division of the Essenkay Products Co., and has assumed his new duties at the general offices in Chicago.

**G. B. Sharpe**, New York, has been appointed assistant sales manager in charge of

advertising for the Cleveland Tractor Co., effective April 1. Sharpe has been in charge of the advertising and sales promotion for the De Laval Separator Co.

**H. S. Benjamin**, for some time advertising manager for the Holley Carburetor Co., Detroit, has resigned and has been succeeded by Earl Holley. Mr. Benjamin's future plans have not been announced.

**W. S. Butler** has resigned from the army and has joined the district sales manager's staff of the Commerce Motor Car Co., Detroit.

**S. A. Host**, director of publicity for the Lincoln Highway Association, has resigned and has connected with the advertising department of the Lincoln Motor Co., Detroit.

**C. E. Wiraching**, formerly with the General Motors Export Co., New York City, has been made assistant to E. F. Sayers, general manager of the export division of the Garford Motor Truck Co., Lima, Ohio.

**Harry J. Sproat** has been made secretary and factory manager of the New Way Motor Co., Lansing. He was formerly factory manager for the Olds Motor Works.

**Frank M. Comrie** and **Wm. J. Cleary** have resigned from the Thielecke Advertising Co. to enter the general advertising business for themselves. The new concern will be known as Comrie & Cleary, Inc., with offices at 1512 North American Bldg., Chicago. Comrie is president of the new company and Cleary treasurer and general manager, and with E. J. Phillips and J. M. Roeser constitute the board of directors of the company.

**Herbert Higginbotham** has been appointed district sales manager of the Oklahoma Auto Mfg. Co., North Muskogee, Okla. He was for a number of years associated with the Paige Motor Car Co. and also Abbott-Detroit Motor Car Co., Detroit.

**Roy F. Fike** has been made manager of the used car department of the American Auto Co., Tacoma. He goes to Tacoma from Portland, where he was sales manager of the Apperson Motor Car Co. and prior to that manager of the used car department of the Willys-Overland-Pacific Co.

**L. S. Chamberlain**, formerly manager of the San Diego branch of the Savage Tire Corp., has been promoted to assistant sales manager with headquarters at the factory. H. E. Cressler, until recently with the Goodrich Tire & Rubber Co., succeeds him as branch manager.

**Brockholst Mathewson** has been placed in charge of the Detroit office of the Savage Arms Corp. which has recently been opened at 1408 Kresge Building.

**Clifford A. Williams**, director of sales of the Kissel Motor Car Co., Hartford, Wis., has resigned to take effect April 15. He is to become vice-president of the Western Motor Co., new distributors of Kissel products in California and Arizona. This organization is headed by Cuyler Lee, former Packard distributor.

**George Hills**, manager of factory sales of the American Rolling Mill Co., has resigned to accept the general management of the Ohio General Tractor Co., Cleveland.

**Milton W. Franklin**, consulting electrical engineer, has been engaged by the Remy

Electric Co., Anderson, Ind. Mr. Franklin is an authority on ozone, on which he has written technical articles. For two years he was Professor of Radiology at the Polyclinic in New York and director of the department of radiology in the New York Health Department. He was connected with the General Electric Co. and was president and general manager of the C & C Electric Mfg. Co., Garwood, N. J.

**C. P. Cary**, who has been manager of the New England branch of the Garford Motor Truck Co., Boston, for several years, coming here from San Francisco, has resigned, and he is now in charge of the truck department of the Packard Company.

**George B. Chapman**, who came to Boston from the Federal Truck Co., Detroit, to manage the agency placed by that company for New England, has resigned to take C. P. Cary's place with the Garford Company. The position of manager of the Federal agency has been filled by the appointment of C. E. Whitten, Jr., of Lynn, whose father controls the Federal business in Boston and vicinity.

**John L. Fay**, manager of the truck department of the Weber Implement & Automobile Co., St. Louis, is back at his desk after service in the production division of the tank section of the army and a long illness that followed.

**Clark F. Kretschmar**, recently an ensign in the Navy, has been made manager of the Rottersman Automobile & Truck Co., St. Louis.

**Major Fred S. Haines** has been appointed commercial manager of H. O. Harrison Co., Hudson and Essex distributor in San Francisco.

**Geo. T. Briggs**, for years sales manager of the Wheeler-Schebler Carburetor Co., Indianapolis, has resigned and associated himself with the Sinclair Refining Co., Chicago.

**F. R. Porter** has been appointed chief motor engineer of the Curtiss Engineering Corp., Garden City, L. I., where the experimental work of the Curtiss company is carried on. He has also been appointed chief engineer of the Curtiss Aeroplane & Motor Corp., of Buffalo. His headquarters will be at Garden City. For the past year Mr. Porter was chief engineer at McCook Field for the Government and in that capacity had to handle all new inventions in connection with engines and accessories.

**D. J. Buckley** is now connected with the wholesale department of the Jennings Motor Car Co., Cincinnati. He formerly represented the Hupmobile in the same territory.

**C. R. Hobbs** has been made sales manager in charge of north Georgia territory of the Blum-Dimmlitt Co., Savannah, Ga., Liberty distributors in Southern territory.

**Harry J. Clesser**, formerly with the Hupmobile Co., Manhattan, has joined the sales organization of Dulguil Brothers, Liberty distributors at Brooklyn.

**B. C. Foy**, formerly special salesman with the Ford Motor Co., Detroit, has joined the factory sales department of the Saxon Motor Car Corp.

**J. C. Thomas** has been appointed sales manager of the Penn-American Motor Car Co., distributors of the American Six for the Philadelphia territory, with headquarters at 2401 Market Street. Twenty-eight dealers have been appointed.

**J. W. McFarland**, purchasing agent of the American Auto Trimming Co., who has been at the Rock Island arsenal for some time in charge of purchases of leather and saddlery, has returned to Detroit and resumed his duties.

**H. N. Dunbar**, formerly branch manager of the Ford Motor Co., has taken the distributorship for Liberty cars in Indiana.



## COMING EVENTS

### Passenger Car and Truck Shows

Brooklyn	Apr. 5-12	Trucks, 23rd Regiment Armory, Brooklyn Motor Vehicle Dealers' Assn. I. C. Kirkham, Manager.
Montreal, Can.	Apr. 5-12	National Motor Show of Eastern Canada, Victoria Rink. T. C. Kirby, Manager.
Bridgeton, N. J.	Apr. 5-12	Fourth Annual Automobile Dealers' Assn.
Deadwood, S. D.	Apr. 8-12	Seventh Annual, Cars and Tractors, Deadwood Business Club.
Waynesburg, Pa.	Apr. 16-19	Automobile Dealers' Assn. of Greene Co., Armory. Frank L. Hoover, Manager.
Bristol, Va.-Tenn.	May 10-17	Cars, Trucks, Tractors, Airplanes and accessories. Bristol Chamber of Commerce. C. W. Roberts, Manager.

### Foreign Shows

Paris, France	Oct. 15	Grand Palais—International Automobile Manufacturers' Congress.
London, England	November	Olympia—International Automobile Manufacturers' Congress.

### Meetings

Philadelphia, Pa.	Apr. 10-12	Convention, National Association of Motor Truck Sales Managers, Bellevue-Stratford.
Hot Springs, Va.	June 2-6	Convention, Automotive Equipment Assn., Homestead Hotel.

### Races

San Bernardino, Cal.	Apr. 24	Rim of the World Hill Climb.
Uniontown, Pa.	May 17	Probably 112½ miles.
Indianapolis, Ind.	May 31	500-Mile Sweepstakes, Indianapolis Speedway.
Cincinnati, O.	July 5	Speedway.
Uniontown, Pa.	July 19	Mid-Summer Meet. Speedway.
Sheepshead Bay, N. Y.	July 26	Speedway.
Elgin, Ill.	Aug. 22-23	Road race.
Sheepshead Bay, N. Y.	Aug. 23	Speedway.
Uniontown, Pa.	Sept. 1	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	Speedway.
Cincinnati, O.	Oct. 1	Speedway.

### Tractor Demonstrations

Walla Walla, Wash.	Apr. 15	Sectional Tractor Demonstrations.
Sacramento, Cal.	May 5	Sectional Tractor Demonstrations, Demonstration Field.
Denver, Col.	Early June	Sectional Tractor Demonstrations.
Wichita, Kan.	July 21-26	Automotive Committee of National Implement Assn.
Aberdeen, S. D.	Early August	Sectional Tractor Demonstrations.

### Aeronautical Exhibition

Atlantic City, N. J.	May 1-June 1	Second Pan-American Aeronautic Convention and Exhibition.
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#### Robertson Made President of Texas Association

HOUSTON, TEX., April 3—At the convention of the Texas State Automobile Dealers' Association, which closed an interesting session here last week, H. L. Robertson of Houston was elected president. Other officers were elected as follows: Vice-presidents—W. A. Williamson, San Antonio; H. T. Herrick, Waco, and Percy Garrett, Fort Worth. Members of board of directors—George L. Glass, Houston; D. T. Reed, Corpus Christi; George F. Conant, Houston, and W. M. Morgan, San Antonio. Treasurer—J. Clarence Thomas, Houston. The secretary will be selected by the board of directors at a later meeting.

The convention by resolution went on record as being in accord with President Wilson's plan for the League of Nations, and those men in Congress opposing the principles enunciated by the country's chief executive were denounced. The recommendation was made that the representatives of Texas in Congress be informed that it is the will of the Texas Automobile Dealers' Association that they support the League of Nations plan and when the opportunity occurs to ratify it with their votes.

Resolutions endorsing movements ad-

vanced and fostered by the National Highways Association in the interest of construction and maintenance of good roads were passed.

F. W. A. Vesper, president of the National Automobile Dealers' Association, spoke in high terms of the work accomplished by the association, and declared there was great need of increased effort to make the organization even more powerful than it has been in the past.

#### Greensboro Has Good Show

GREENSBORO, N. C., April 3—Greensboro's second annual show opened March 25 and closed March 29. Over 10,000 people passed through the gates. The building was a tobacco warehouse, 200 x 85, and was decorated with a bed of Southern smilax on the ceiling and sides with over 600 electric bulbs scattered through the ceiling. A space 35 x 55 was laid off in the center of the floor and a new dancing floor put down, which added to the show.

There were 80 cars, or 32 different makes, also some trucks. Over 115 cars were sold retail on the floor, totaling \$162,000 worth of business. This year four new State distributors opened up fine show places and closed territory at the show.

The valuation of tobacco around Greensboro this year has increased by over \$32,000,000, and many high-priced cars are being sold to people in the most remote sections where previously only Fords were sold. John Kelly of Philadelphia had charge of the show.

#### Road Markers Along Pennsylvania Highways

PHILADELPHIA, April 3—Attractive road markers pointing out the distance to Harrisburg and bearing an appropriate slogan advising motorists to stop there soon will be placed on highways leading to the city at points throughout all of Central Pennsylvania, according to plans of the Harrisburg Chamber of Commerce, and Philadelphia is considering following the lead. The plan is to issue 10,000 booklets setting forth the advantages of the city as a business and residential center.

#### Hitch Yourself to National Advertising (Continued from page 32)

"I did that very thing. The painters did a very nice job of it and we have been watching results. That window now attracts attention. It has become an asset. At night three drop lights set it off in good shape. So we have here a first-class billboard at an expense of \$25 a month, or as long as we want to let an advertisement stand. We have watched persons driving by look at that sign and then look up and, apparently, see for the first time the name of our factory. After a period of many years we are identifying ourselves.

"It occurs to me that there are a great many motor car and truck dealers who are guilty of the same grandfather habit that held us. There are on this Motor Row half a dozen agencies for motor cars that sell cars that are nationally advertised. The pictures that are used are familiar to millions of people, thousands of whom drive along Motor Row.

"To how many of those people are these motor car agencies identified with this national advertising?

"The more I think of it, the more I am sure that it is an excellent use of show window space to use it for a sign that identifies the showroom with the national advertising. I know of no city where the majority of the motor car salesrooms are on a walking street. By that I mean on a street where the passers-by have the time or the opportunity to stop to examine the ordinary window display.

"How many of these motor car merchants ever decorated a window, then got in their car and drove by just as the casual passenger on that street drives by?

"The department store window dresser goes outside and stands and looks at his window to see how it looks to those who stop and look at it. He does that because his public stops and looks. Motor car merchants have been doing it as a matter of habit."



Farm  
Tractors

## MOTOR WORLD GUIDE

Farm  
Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Acme	12-24	6,000		W	4	Beaver	4	4 1/2 x 6	G or K	3	Elgin	12-25	3,300	\$1385	W	4	Erd	4	4 1/2 x 6	G or K or D	2-3
Allis-Chalmers	6-12	1,850		W	2	Ow	2	4 1/2 x 4	G or K	1	Fagel	8-12	3,300	1500	W	4	Overland	4	4 1/2 x 6	G or K or D	2
Allis-Chalmers	10-18	4,800		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Allis-Chalmers	15-30	5,300		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Allis-Chalmers	14-28	4,800		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
American	15-30	4,975	\$1505	W	4	Beaver	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Andrews	12-20	4,000	1000	W	4	Beaver	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Appleton	12-20	4,000		W	4	Beaver	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Atlas	15-30	5,400	1750	W	4	Buda	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Aultman-Taylor	15-30	7,500		W	4	Waukesha	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Aultman-Taylor	22-45	12,500		W	4	Waukesha	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Aultman-Taylor	30-60	23,000		W	4	Waukesha	4	4 1/2 x 6	G or K	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Austin	5-10	750		W & C	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Austin	12-20	3,500		W & C	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Austin	15-30	4,500		W & C	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Austin	20-40	4,500		W & C	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Austin	75-125	25,000		W & C	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Auto Tiller	8-16	850	365	W	2	Waukesha	2	4 1/2 x 4	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery B.	5-10	2,600	550	W	2	Waukesha	2	4 1/2 x 4	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery B.	5-10	3,050		W	2	Waukesha	2	4 1/2 x 4	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery Cultiv.	8-16	4,900		W	2	Waukesha	2	4 1/2 x 4	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery	12-25	7,500		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3-4	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery	14-28	6,800		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3-4	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery	18-36	9,250		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3-4	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery	25-50	12,500		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3-4	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Avery	40-80	22,000		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3-4	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Bates All-Steel	15-25	4,000		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Bates Steel Mule	15-25	4,500		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Bean Tractor	6-10	3,100	285	W	2	LeROI	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Beeman	11-4	4,500		W	2	Ow	2	4 1/2 x 4	G or K or D	2-3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Beltrair	12-20	3,450	1200	W	4	Waukesha	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Blumberg	12-20	3,500	1485	W	4	Waukesha	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Boring	15-30	6,900		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Boss	20-40	7,600		W	4	Waukesha	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Britton	12-22	4,900	5500	W	4	Field	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Buckeye	16-30	21,000		W	4	Automatic	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Buckeye	21-45	25,000	6500	W	4	Automatic	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Bull	12-24	5,000	1270	W	3	Toro	3	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Capital	15-36	4,000	1500	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Capital	20-50	6,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Case	10-18	3,500	1200	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Case	10-20	3,500	1200	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Case	15-27	5,750	1600	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Case	20-40	7,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Case	20-40	7,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Chas. and	8-18	4,800	1200	W	4	Weldy	4	4 1/2 x 6	G or K or D	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Chas. and	12-20	3,175	1353	W	4	Weldy	4	4 1/2 x 6	G or K or D	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
C.O.D.	12-20	3,500	1395	W	4	Weldy	4	4 1/2 x 6	G or K or D	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Coleman	16-30	4,905	1750	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Coleman-Sense	30-40	6,000	2200	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Craig	15-25	4,500	2000	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Creeping Grip	15-25	7,000	2000	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Dakota	15-30	5,300	1750	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Dart Blue J	15-30	4,500	1750	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Denning	9-16	3,800	1075	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Denning	12-22	4,200	1375	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Dill	20-	4,400	2450	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Do It All	2-6			W	2	Ow	2	4 1/2 x 4	G or K	2	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Eagle	16-30	7,100	1835	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
Eagle	12-22	5,800	1545	W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
E-B	9-16	4,260		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
E-B	12-20	4,350		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
E-B	12-20	6,500		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
E-B	20-35	9,700		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2
E-B	40-65	23,000		W	4	Ow	4	4 1/2 x 6	G or K or D	3	Farmer Boy	10-30	3,600	1350	W	4	Waukesha	4	4 1/2 x 6	G or K or D	2



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THE tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.

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# MOTOR WORLD GUIDE

## Trucks

Final Drive										Tires										Final Drive										Tires										Final Drive										Tires																																																																					
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Name and Model	Capacity	Price	Quality	Tires
Sullivan	1 1/2	2350	4-31x5	36x4
Sullivan	2	2500	4-31x5	36x4
Superior	1	1600	4-31x5	36x4
Superior	2	2775	4-31x5	36x4
Tiffin	1	1100	4-31x5	36x4
Tiffin	2	2075	4-31x5	36x4
Tiffin	3	2750	4-31x5	36x4
Tiffin	4	3000	4-31x5	36x4
Tiffin	5	4500	4-31x5	36x4
Tiffin	6	4500	4-31x5	36x4
Titan	1	4300	4-31x5	36x4
Titan	2	5150	4-31x5	36x4
Traffic	1	1395	4-31x5	36x4
Transport	1	2750	4-31x5	36x4
Triangle	1	2185	4-31x5	36x4
Triangle	2	2850	4-31x5	36x4
United	1	1908	4-31x5	36x4
United	2	2500	4-31x5	36x4
United	3	3000	4-31x5	36x4
United	4	3500	4-31x5	36x4
United	5	4500	4-31x5	36x4
United	6	4500	4-31x5	36x4
Universal	1	1908	4-31x5	36x4
Universal	2	2500	4-31x5	36x4
Universal	3	3000	4-31x5	36x4
Universal	4	3500	4-31x5	36x4
Universal	5	4500	4-31x5	36x4
Universal	6	4500	4-31x5	36x4
Velle	1	2860	4-31x5	36x4
Velle	2	3000	4-31x5	36x4
Velle	3	3500	4-31x5	36x4
Vim	1	1945	4-31x5	36x4
Vim	2	2195	4-31x5	36x4
Vim	3	2195	4-31x5	36x4
Vim	4	3150	4-31x5	36x4
Vim	5	3950	4-31x5	36x4
Waller	1	1908	4-31x5	36x4
Waller	2	2500	4-31x5	36x4
Waller	3	3000	4-31x5	36x4
Waller	4	3500	4-31x5	36x4
Waller	5	4500	4-31x5	36x4
Waller	6	4500	4-31x5	36x4
Ward La France	1	1908	4-31x5	36x4
Ward La France	2	2500	4-31x5	36x4
Ward La France	3	3000	4-31x5	36x4
Ward La France	4	3500	4-31x5	36x4
Ward La France	5	4500	4-31x5	36x4
Ward La France	6	4500	4-31x5	36x4
White	1	1908	4-31x5	36x4
White	2	2500	4-31x5	36x4
White	3	3000	4-31x5	36x4
White	4	3500	4-31x5	36x4
White	5	4500	4-31x5	36x4
White	6	4500	4-31x5	36x4
Wichita	1	1850	4-31x5	36x4
Wichita	2	2500	4-31x5	36x4
Wichita	3	3000	4-31x5	36x4
Wichita	4	3500	4-31x5	36x4
Wichita	5	4500	4-31x5	36x4
Wichita	6	4500	4-31x5	36x4
Wichita	7	5000	4-31x5	36x4
Wichita	8	5000	4-31x5	36x4
Wichita	9	5000	4-31x5	36x4
Wichita	10	5000	4-31x5	36x4
Wichita	11	5000	4-31x5	36x4
Wichita	12	5000	4-31x5	36x4
Wichita	13	5000	4-31x5	36x4
Wichita	14	5000	4-31x5	36x4
Wichita	15	5000	4-31x5	36x4
Wichita	16	5000	4-31x5	36x4
Wichita	17	5000	4-31x5	36x4
Wichita	18	5000	4-31x5	36x4
Wichita	19	5000	4-31x5	36x4
Wichita	20	5000	4-31x5	36x4
Wichita	21	5000	4-31x5	36x4
Wichita	22	5000	4-31x5	36x4
Wichita	23	5000	4-31x5	36x4
Wichita	24	5000	4-31x5	36x4
Wichita	25	5000	4-31x5	36x4
Wichita	26	5000	4-31x5	36x4
Wichita	27	5000	4-31x5	36x4
Wichita	28	5000	4-31x5	36x4
Wichita	29	5000	4-31x5	36x4
Wichita	30	5000	4-31x5	36x4
Wichita	31	5000	4-31x5	36x4
Wichita	32	5000	4-31x5	36x4
Wichita	33	5000	4-31x5	36x4
Wichita	34	5000	4-31x5	36x4
Wichita	35	5000	4-31x5	36x4
Wichita	36	5000	4-31x5	36x4
Wichita	37	5000	4-31x5	36x4
Wichita	38	5000	4-31x5	36x4
Wichita	39	5000	4-31x5	36x4
Wichita	40	5000	4-31x5	36x4
Wichita	41	5000	4-31x5	36x4
Wichita	42	5000	4-31x5	36x4
Wichita	43	5000	4-31x5	36x4
Wichita	44	5000	4-31x5	36x4
Wichita	45	5000	4-31x5	36x4
Wichita	46	5000	4-31x5	36x4
Wichita	47	5000	4-31x5	36x4
Wichita	48	5000	4-31x5	36x4
Wichita	49	5000	4-31x5	36x4
Wichita	50	5000	4-31x5	36x4
Wichita	51	5000	4-31x5	36x4
Wichita	52	5000	4-31x5	36x4
Wichita	53	5000	4-31x5	36x4
Wichita	54	5000	4-31x5	36x4
Wichita	55	5000	4-31x5	36x4
Wichita	56	5000	4-31x5	36x4
Wichita	57	5000	4-31x5	36x4
Wichita	58	5000	4-31x5	36x4
Wichita	59	5000	4-31x5	36x4
Wichita	60	5000	4-31x5	36x4
Wichita	61	5000	4-31x5	36x4
Wichita	62	5000	4-31x5	36x4
Wichita	63	5000	4-31x5	36x4
Wichita	64	5000	4-31x5	36x4
Wichita	65	5000	4-31x5	36x4
Wichita	66	5000	4-31x5	36x4
Wichita	67	5000	4-31x5	36x4
Wichita	68	5000	4-31x5	36x4
Wichita	69	5000	4-31x5	36x4
Wichita	70	5000	4-31x5	36x4
Wichita	71	5000	4-31x5	36x4
Wichita	72	5000	4-31x5	36x4
Wichita	73	5000	4-31x5	36x4
Wichita	74	5000	4-31x5	36x4
Wichita	75	5000	4-31x5	36x4
Wichita	76	5000	4-31x5	36x4
Wichita	77	5000	4-31x5	36x4
Wichita	78	5000	4-31x5	36x4
Wichita	79	5000	4-31x5	36x4
Wichita	80	5000	4-31x5	36x4
Wichita	81	5000	4-31x5	36x4
Wichita	82	5000	4-31x5	36x4
Wichita	83	5000	4-31x5	36x4
Wichita	84	5000	4-31x5	36x4
Wichita	85	5000	4-31x5	36x4
Wichita	86	5000	4-31x5	36x4
Wichita	87	5000	4-31x5	36x4
Wichita	88	5000	4-31x5	36x4
Wichita	89	5000	4-31x5	36x4
Wichita	90	5000	4-31x5	36x4
Wichita	91	5000	4-31x5	36x4
Wichita	92	5000	4-31x5	36x4
Wichita	93	5000	4-31x5	36x4
Wichita	94	5000	4-31x5	36x4
Wichita	95	5000	4-31x5	36x4
Wichita	96	5000	4-31x5	36x4
Wichita	97	5000	4-31x5	36x4
Wichita	98	5000	4-31x5	36x4
Wichita	99	5000	4-31x5	36x4
Wichita	100	5000	4-31x5	36x4

Name and Model	Capacity	Price	Quality	Tires
Standard	E 2	2350	4-12x5	34 4
Standard	E 2	3100	6-31x5	34x4
Standard	E 2	3700	6-31x5	34x4
Standard	E 2	4200	6-31x5	36x5
Standard	E 2	5000	6-31x5	36x5
Standard	E 2	6000	6-31x5	36x5
Standard	E 2	7000	6-31x5	36x5
Standard	E 2	8000	6-31x5	36x5
Standard	E 2	9000	6-31x5	36x5
Standard	E 2	10000	6-31x5	36x5
Standard	E 2	11000	6-31x5	36x5
Standard	E 2	12000	6-31x5	36x5
Standard	E 2	13000	6-31x5	36x5
Standard	E 2	14000	6-31x5	36x5
Standard	E 2	15000	6-31x5	36x5
Standard	E 2	16000	6-31x5	36x5
Standard	E 2	17000	6-31x5	36x5
Standard	E 2	18000	6-31x5	36x5
Standard	E 2	19000	6-31x5	36x5
Standard	E 2	20000	6-31x5	36x5
Standard	E 2	21000	6-31x5	36x5
Standard	E 2	22000	6-31x5	36x5
Standard	E 2	23000	6-31x5	36x5
Standard	E 2	24000	6-31x5	36x5
Standard	E 2	25000	6-31x5	36x5
Standard	E 2	26000	6-31x5	36x5
Standard	E 2	27000	6-31x5	36x5
Standard	E 2	28000	6-31x5	36x5
Standard	E 2	29000	6-31x5	36x5
Standard	E 2	30000	6-31x5	36x5
Standard	E 2	31000	6-31x5	36x5
Standard	E 2	32000	6-31x5	36x5
Standard	E 2	33000	6-31x5	36x5
Standard	E 2	34000	6-31x5	36x5
Standard	E 2	35000	6-31x5	36x5
Standard	E 2	36000	6-31x5	36x5
Standard	E 2	37000	6-31x5	36x5
Standard	E 2	38000	6-31x5	36x5
Standard	E 2	39000	6-31x5	36x5
Standard	E 2	40000	6-31x5	36x5
Standard	E 2	41000	6-31x5	36x5
Standard	E 2	42000	6-31x5	36x5
Standard	E 2	43000	6-31x5	36x5
Standard	E 2	44000	6-31x5	36x5
Standard	E 2	45000	6-31x5	36x5
Standard	E 2	46000	6-31x5	36x5
Standard	E 2	47000	6-31x5	36x5
Standard	E 2	48000	6-31x5	36x5
Standard	E 2	49000	6-31x5	36x5
Standard	E 2	50000	6-31x5	36x5
Standard	E 2	51000	6-31x5	36x5
Standard	E 2	52000	6-31x5	36x5
Standard	E 2	53000	6-31x5	36x5
Standard	E 2	54000	6-31x5	36x5
Standard	E 2	55000	6-31x5	36x5
Standard	E 2	56000	6-31x5	36x5
Standard	E 2	57000	6-31x5	36x5
Standard	E 2	58000	6-31x5	36x5
Standard	E 2	59000	6-31x5	36x5
Standard	E 2	60000	6-31x5	36x5
Standard	E 2	61000	6-31x5	36x5
Standard	E 2	62000	6-31x5	36x5
Standard	E 2	63000	6-31x5	36x5
Standard	E 2	64000	6-31x5	36x5
Standard	E 2	65000	6-31x5	36x5
Standard	E 2	66000	6-31x5	36x5
Standard	E 2	67000	6-31x5	36x5
Standard	E 2	68000	6-31x5	36x5
Standard	E 2	69000	6-31x5	36x5
Standard	E 2	70000	6-31x5	36x5
Standard	E 2	71000	6-31x5	36x5
Standard	E 2	72000	6-31x5	36x5
Standard	E 2	73000	6-31x5	36x5
Standard	E 2	74000	6-31x5	36x5
Standard	E 2	75000	6-31x5	36x5
Standard	E 2	76000	6-31x5	36x5
Standard	E 2	77000	6-31x5	36x5
Standard	E 2	78000	6-31x5	36x5
Standard	E 2	79000	6-31x5	36x5
Standard	E 2	80000	6-31x5	36x5
Standard	E 2	81000	6-31x5	36x5
Standard	E 2	82000	6-31x5	36x5
Standard	E 2	83000	6-31x5	36x5
Standard	E 2	84000	6-31x5	36x5
Standard	E 2	85000	6-31x5	36x5
Standard	E 2	86000	6-31x5	36x5
Standard	E 2	87000	6-31x5	36x5
Standard	E 2	88000	6-31x5	36x5
Standard	E 2	89000	6-31x5	36x5
Standard	E 2	90000	6-31x5	36x5
Standard	E 2	91000	6-31x5	36x5
Standard	E 2	92000	6-31x5	36x5
Standard	E 2	93000	6-31x5	36x5
Standard	E 2	94000	6-31x5	36x5
Standard	E 2	95000	6-31x5	36x5
Standard	E 2	96000	6-31x5	36x5
Standard	E 2	97000	6-31x5	36x5
Standard	E 2	98000	6-31x5	36x5
Standard	E 2	99000	6-31x5	36x5
Standard	E 2	100000	6-31x5	36x5

# MERCHANDISING SPECIFICATIONS

THE tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.



Model	Motor	Ignition	WB	Tires	Rims	Pass.	2-	3-	4-	5-	6-	7-	8-	9-	10-	11-	12-	13-	14-	15-	16-	17-	18-	19-	20-	21-	22-	23-	24-	25-	26-	27-	28-	29-	30-	31-	32-	33-	34-	35-	36-	37-	38-	39-	40-	41-	42-	43-	44-	45-	46-	47-	48-	49-	50-	51-	52-	53-	54-	55-	56-	57-	58-	59-	60-	61-	62-	63-	64-	65-	66-	67-	68-	69-	70-	71-	72-	73-	74-	75-	76-	77-	78-	79-	80-	81-	82-	83-	84-	85-	86-	87-	88-	89-	90-	91-	92-	93-	94-	95-	96-	97-	98-	99-	100-	101-	102-	103-	104-	105-	106-	107-	108-	109-	110-	111-	112-	113-	114-	115-	116-	117-	118-	119-	120-	121-	122-	123-	124-	125-	126-	127-	128-	129-	130-	131-	132-	133-	134-	135-	136-	137-	138-	139-	140-	141-	142-	143-	144-	145-	146-	147-	148-	149-	150-	151-	152-	153-	154-	155-	156-	157-	158-	159-	160-	161-	162-	163-	164-	165-	166-	167-	168-	169-	170-	171-	172-	173-	174-	175-	176-	177-	178-	179-	180-	181-	182-	183-	184-	185-	186-	187-	188-	189-	190-	191-	192-	193-	194-	195-	196-	197-	198-	199-	200-	201-	202-	203-	204-	205-	206-	207-	208-	209-	210-	211-	212-	213-	214-	215-	216-	217-	218-	219-	220-	221-	222-	223-	224-	225-	226-	227-	228-	229-	230-	231-	232-	233-	234-	235-	236-	237-	238-	239-	240-	241-	242-	243-	244-	245-	246-	247-	248-	249-	250-	251-	252-	253-	254-	255-	256-	257-	258-	259-	260-	261-	262-	263-	264-	265-	266-	267-	268-	269-	270-	271-	272-	273-	274-	275-	276-	277-	278-	279-	280-	281-	282-	283-	284-	285-	286-	287-	288-	289-	290-	291-	292-	293-	294-	295-	296-	297-	298-	299-	300-	301-	302-	303-	304-	305-	306-	307-	308-	309-	310-	311-	312-	313-	314-	315-	316-	317-	318-	319-	320-	321-	322-	323-	324-	325-	326-	327-	328-	329-	330-	331-	332-	333-	334-	335-	336-	337-	338-	339-	340-	341-	342-	343-	344-	345-	346-	347-	348-	349-	350-	351-	352-	353-	354-	355-	356-	357-	358-	359-	360-	361-	362-	363-	364-	365-	366-	367-	368-	369-	370-	371-	372-	373-	374-	375-	376-	377-	378-	379-	380-	381-	382-	383-	384-	385-	386-	387-	388-	389-	390-	391-	392-	393-	394-	395-	396-	397-	398-	399-	400-	401-	402-	403-	404-	405-	406-	407-	408-	409-	410-	411-	412-	413-	414-	415-	416-	417-	418-	419-	420-	421-	422-	423-	424-	425-	426-	427-	428-	429-	430-	431-	432-	433-	434-	435-	436-	437-	438-	439-	440-	441-	442-	443-	444-	445-	446-	447-	448-	449-	450-	451-	452-	453-	454-	455-	456-	457-	458-	459-	460-	461-	462-	463-	464-	465-	466-	467-	468-	469-	470-	471-	472-	473-	474-	475-	476-	477-	478-	479-	480-	481-	482-	483-	484-	485-	486-	487-	488-	489-	490-	491-	492-	493-	494-	495-	496-	497-	498-	499-	500-	501-	502-	503-	504-	505-	506-	507-	508-	509-	510-	511-	512-	513-	514-	515-	516-	517-	518-	519-	520-	521-	522-	523-	524-	525-	526-	527-	528-	529-	530-	531-	532-	533-	534-	535-	536-	537-	538-	539-	540-	541-	542-	543-	544-	545-	546-	547-	548-	549-	550-	551-	552-	553-	554-	555-	556-	557-	558-	559-	560-	561-	562-	563-	564-	565-	566-	567-	568-	569-	570-	571-	572-	573-	574-	575-	576-	577-	578-	579-	580-	581-	582-	583-	584-	585-	586-	587-	588-	589-	590-	591-	592-	593-	594-	595-	596-	597-	598-	599-	600-	601-	602-	603-	604-	605-	606-	607-	608-	609-	610-	611-	612-	613-	614-	615-	616-	617-	618-	619-	620-	621-	622-	623-	624-	625-	626-	627-	628-	629-	630-	631-	632-	633-	634-	635-	636-	637-	638-	639-	640-	641-	642-	643-	644-	645-	646-	647-	648-	649-	650-	651-	652-	653-	654-	655-	656-	657-	658-	659-	660-	661-	662-	663-	664-	665-	666-	667-	668-	669-	670-	671-	672-	673-	674-	675-	676-	677-	678-	679-	680-	681-	682-	683-	684-	685-	686-	687-	688-	689-	690-	691-	692-	693-	694-	695-	696-	697-	698-	699-	700-	701-	702-	703-	704-	705-	706-	707-	708-	709-	710-	711-	712-	713-	714-	715-	716-	717-	718-	719-	720-	721-	722-	723-	724-	725-	726-	727-	728-	729-	730-	731-	732-	733-	734-	735-	736-	737-	738-	739-	740-	741-	742-	743-	744-	745-	746-	747-	748-	749-	750-	751-	752-	753-	754-	755-	756-	757-	758-	759-	760-	761-	762-	763-	764-	765-	766-	767-	768-	769-	770-	771-	772-	773-	774-	775-	776-	777-	778-	779-	780-	781-	782-	783-	784-	785-	786-	787-	788-	789-	790-	791-	792-	793-	794-	795-	796-	797-	798-	799-	800-	801-	802-	803-	804-	805-	806-	807-	808-	809-	810-	811-	812-	813-	814-	815-	816-	817-	818-	819-	820-	821-	822-	823-	824-	825-	826-	827-	828-	829-	830-	831-	832-	833-	834-	835-	836-	837-	838-	839-	840-	841-	842-	843-	844-	845-	846-	847-	848-	849-	850-	851-	852-	853-	854-	855-	856-	857-	858-	859-	860-	861-	862-	863-	864-	865-	866-	867-	868-	869-	870-	871-	872-	873-	874-	875-	876-	877-	878-	879-	880-	881-	882-	883-	884-	885-	886-	887-	888-	889-	890-	891-	892-	893-	894-	895-	896-	897-	898-	899-	900-	901-	902-	903-	904-	905-	906-	907-	908-	909-	910-	911-	912-	913-	914-	915-	916-	917-	918-	919-	920-	921-	922-	923-	924-	925-	926-	927-	928-	929-	930-	931-	932-	933-	934-	935-	936-	937-	938-	939-	940-	941-	942-	943-	944-	945-	946-	947-	948-	949-	950-	951-	952-	953-	954-	955-	956-	957-	958-	959-	960-	961-	962-	963-	964-	965-	966-	967-	968-	969-	970-	971-	972-	973-	974-	975-	976-	977-	978-	979-	980-	981-	982-	983-	984-	985-	986-	987-	988-	989-	990-	991-	992-	993-	994-	995-	996-	997-	998-	999-	1000-	1001-	1002-	1003-	1004-	1005-	1006-	1007-	1008-	1009-	1010-	1011-	1012-	1013-	1014-	1015-	1016-	1017-	1018-	1019-	1020-	1021-	1022-	1023-	1024-	1025-	1026-	1027-	1028-	1029-	1030-	1031-	1032-	1033-	1034-	1035-	1036-	1037-	1038-	1039-	1040-	1041-	1042-	1043-	1044-	1045-	1046-	1047-	1048-	1049-	1050-	1051-	1052-	1053-	1054-	1055-	1056-	1057-	1058-	1059-	1060-	1061-	1062-	1063-	1064-	1065-	1066-	1067-	1068-	1069-	1070-	1071-	1072-	1073-	1074-	1075-	1076-	1077-	1078-	1079-	1080-	1081-	1082-	1083-	1084-	1085-	1086-	1087-	1088-	1089-	1090-	1091-	1092-	1093-	1094-	1095-	1096-	1097-	1098-	1099-	1100-	1101-	1102-	1103-	1104-	1105-	1106-	1107-	1108-	1109-	1110-	1111-	1112-	1113-	1114-	1115-	1116-	1117-	1118-	1119-	1120-	1121-	1122-	1123-	1124-	1125-	1126-	1127-	1128-	1129-	1130-	1131-	1132-	1133-	1134-	1135-	1136-	1137-	1138-	1139-	1140-	1141-	1142-	1143-	1144-	1145-	1146-	1147-	1148-	1149-	1150-	1151-	1152-	1153-	1154-	1155-	1156-	1157-	1158-	1159-	1160-	1161-	1162-	1163-	1164-	1165-	1166-	1167-	1168-	1169-	1170-	1171-	1172-	1173-	1174-	1175-	1176-	1177-	1178-	1179-	1180-	1181-	1182-	1183-	1184-	1185-	1186-	1187-	1188-	1189-	1190-	1191-	1192-	1193-	1194-	1195-	1196-	1197-	1198-	1199-	1200-	1201-	1202-	1203-	1204-	1205-	1206-	1207-	1208-	1209-	1210-	1211-	1212-	1213-	1214-	1215-	1216-	1217-	1218-	1219-	1220-	1221-	1222-	1223-	1224-	1225-	1226-	1227-	1228-	1229-	1230-	1231-	1232-	1233-	1234-	1235-	1236-	1237-	1238-	1239-	1240-	1241-	1242-	1243-	1244-	1245-	1246-	1247-	1248-	1249-	1250-	1251-	1252-	1253-	1254-	1255-	1256-	1257-	1258-	1259-	1260-	1261-	1262-	1263-	1264-	1265-	1266-	1267-	1268-	1269-	1270-	1271-	1272-	1273-	1274-	1275-	1276-	1277-	1278-	1279-	1280-	1281-	1282-	1283-	1284-	1285-	1286-	1287-	1288-	1289-	1290-	1291-	1292-	1293-	1294-	1295-	1296-	1297-	1298-	1299-	1300-	1301-	1302-	1303-	1304-	1305-	1306-	1307-	1308-	1309-	1310-	1311-	1312-	1313-	1314-	1315-	1316-	1317-	1318-	1319-	1320-	1321-	1322-	1323-	1324-	1325-	1326-	1327-	1328-	1329-	1330-	1331-	1332-	1333-	1334-	1335-	1336-	1337-	1338-	1339-	1340-	1341-	1342-	1343-	1344-	1345-	1346-	1347-	1348-	1349-	1350-	1351-	1352-	1353-	1354-	1355-	1356-	1357-	1358-	1359-	1360-	1361-	1362-	1363-	1364-	1365-	1366-	1367-	1368-	1369-	1370-	1371-	1372-	1373-	1374-	1375-	1376-	1377-	1378-	1379-	1380-	1381-	1382-	1383-	1384-	1385-	1386-	1387-	1388-	1389-	1390-	1391-	1392-	1393-	1394-	1395-	1396-	1397-	1398-	1399-	1400-	1401-	1402-	1403-	1404-	1405-	1406-	1407-	1408-	1409-	1410-	1411-	1412-	1413-	1414-	1415-	1416-	1417-	1418-	1419-	1420-	1421-	1422-	1423-	1424-	1425-	1426-	1427-	1428-	1429-	1430-	1431-	1432-	1433-	1434-	1435-	1436-	1437-	1438-	1439-	1440-	1441-	1442-	1443-	1444-	1445-	1446-	1447-	1448-	1449-	1450-	1451-	1452-	1453-	1454-	1455-	1456-	1457-	1458-	1459-	1460-	1461-	1462-	1463-	146
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# MICHELIN

## Help Your Customers to Greater Mileage

The dealer who is most successful in the end is the one who serves the interests of his customers best.

Urge your customers, therefore, to shift tires from rear to front wheels in accordance

with the principle of tire rotation explained in the advertisement below.

Remember, however, that tire rotation is practicable only when front and rear tires are truly interchangeable. Michelin Tires are interchangeable. Do you sell them? If not, write us now.

**MICHELIN TIRE CO., MILLTOWN, N. J.**

*[Nineteen Wholesale Branches Insure Prompt Delivery]*

*This advertisement—  
one of an all-year series  
published during 1919  
by Michelin—is appearing  
in The Saturday  
Evening Post, Literary  
Digest, Life, Country  
Gentleman, The Progressive  
Farmer and a  
list of big newspapers.*



THE SATURDAY EVENING POST April 5, 1919

## MICHELIN Tire Rotation

When a tire is worn, it is not a new tire.

Do the tires you use enable you to apply this principle which cuts the bills by 20%?

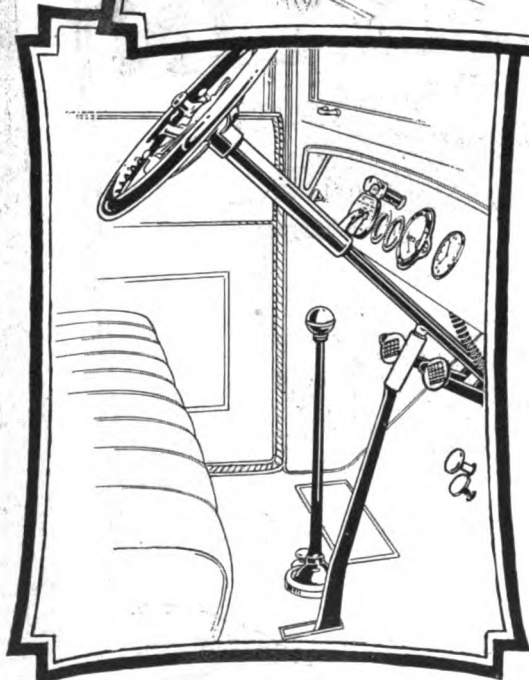
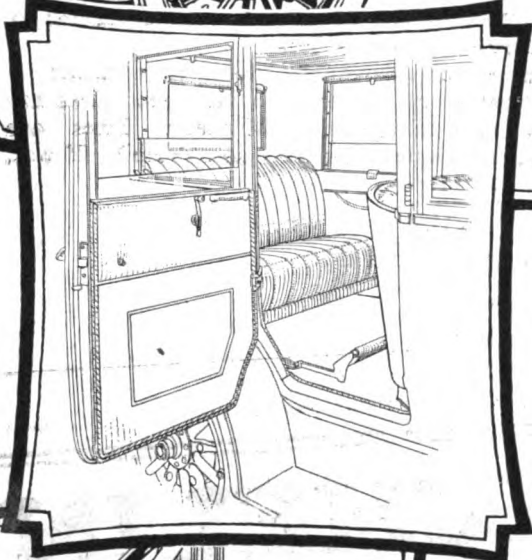
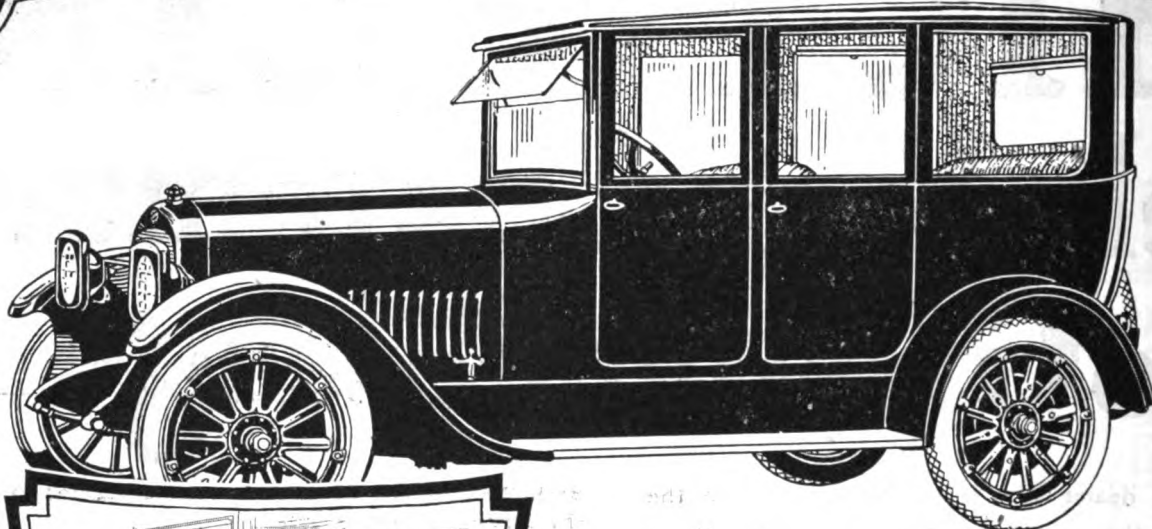
Tire rotation is practicable only when fully interchangeable tires like Michelin Universal Tread Casings are used on both front and rear wheels.

Many non-skids, while perhaps satisfactory on the rear wheels, cannot be used to advantage in front because their small sharp projections make steering difficult. Recognizing this fault, many tire manufacturers are now recommending smooth tread "driving tires" for front wheel equipment.

Michelin Universals are equally satisfactory for all four wheels because of their broad, flat treads. Use Michelins and secure all the economical advantages of tire rotation. Protect yourself against dangerous front skids and obviate the necessity of carrying two types of spares.

**MICHELIN TIRE CO., MILLTOWN, N. J.**  
Michelin Tires Co. of Canada, Ltd., 100 St. Catherine St. W., Montreal  
Dealers in all parts of the world





THE NEW

# Studebaker

## SEDAN

Upholstery on cushions and back of seats is a delicately striped pattern—on sides and top a beautiful light shade in one color; plate glass windows give unobstructed vision and are automatically lowered and raised by the turning of a handle; headlights are of an unique and exclusive design; silver-faced jeweled clock, magnetic speedometer on dash; four wide-opening doors provide for easy entrance and exit; eight solid upright posts insure a solidity of construction that is proof against annoying rattles.

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Light-Six Coupe.....	2285
Light-Six Sedan.....	2385
Big-Six Touring.....	1985

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# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 3

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, APRIL 16, 1919

Twenty-five cents a copy  
Two dollars a year

## **Champion** Dependable Spark Plugs

Severe Air-Test Shows Dependability of Spark Plugs With No. 3450 Insulator



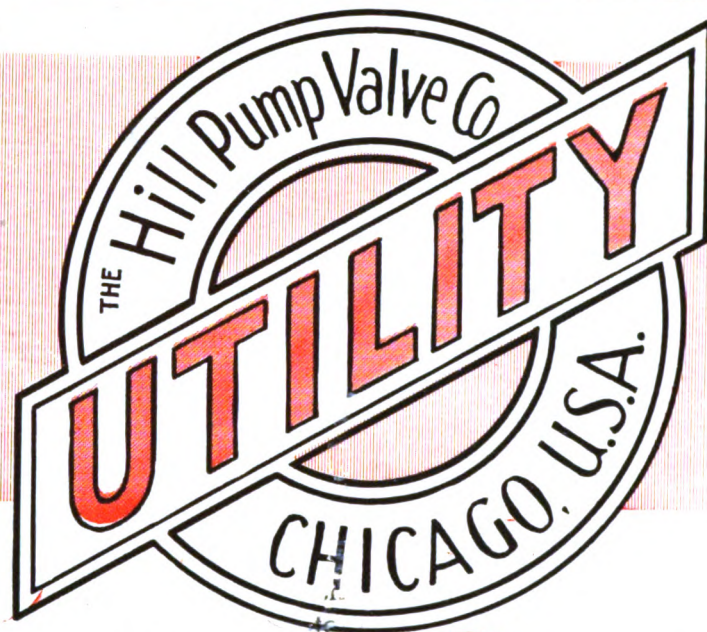
Champion  
1/8-18  
Price \$1.00

**T**O guard against possible leakage Champion Spark Plugs are inserted in our Air-Test Machine, oil is poured at the point where shell and insulator meet, and a pressure of 140 pounds per square inch of air is forced up through the base of the shell. The absence of air bubbles means 100% Champion Dependability against leakage.

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**Champion Spark Plug Company, Toledo, Ohio**  
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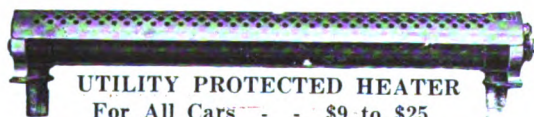
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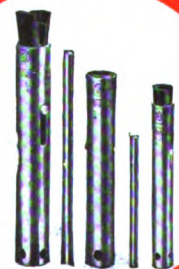
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For Fords - \$38.50



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

### SUMMER MERCHANDISING NUMBER

Three Big Thoughts.....8-10-12

### New Ways for Aggressive Men

Car Sales .....14-15-16  
Used Cars .....18-19-20  
Flat Rates for Repairs.....22

(Save the Colored Supplement)

Automotive Equipment .....28-29  
Trucks .....32-33  
Tractors .....36-37  
Jobbing .....64  
Garaging .....83

### Ideas for Energetic Dealers

Car Sales .....16-17-40-41-57  
Used Cars .....20-47-78-79  
Trucks .....33-34-71  
Tractors .....37-38-44-45-46  
Automotive Equipment .....29-30-67  
Efficiency .....74-75

The Airplane Dealer.....87

A Story Car Dealers Should Read 62-63

System for Your Business 92-93-94-95

### Automotive Equipment to Sell

48-49-50-52-53-56-58-60-61-65-66-68-70-72-76-  
80-82-84-85-86-88-89-90-91-96-97-98

Advertisers Index on Pages 128-129

## Here is Additional Profit For You This Summer

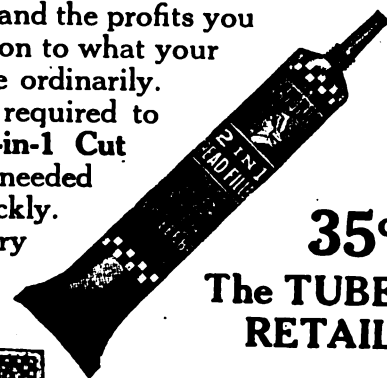


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Stock this product and the profits you make will be in addition to what your total profits would be ordinarily.

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Put a display stand on your counter or in your window and the Cut Filler will sell itself.



### Send for This Catalog

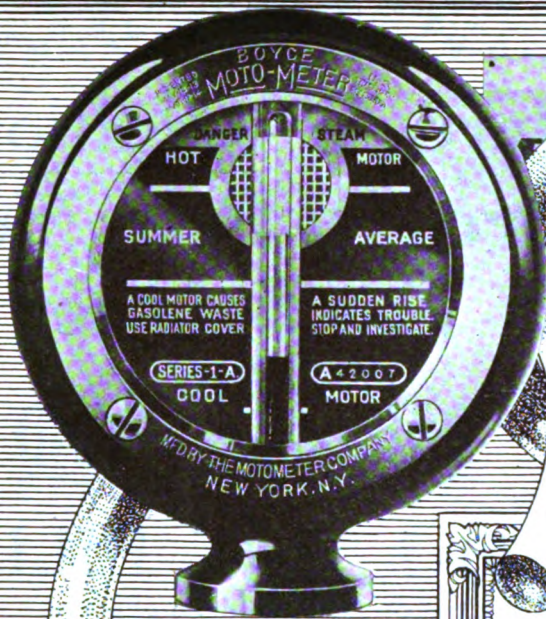
The complete line of Dutch Brand Products is described in detail including tire and chemical specialties. A copy will be sent to you free. Write for it.

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**TROUBLE-INDICATOR**

TECTING TWO MILLION MOTORS  
PASSENGER CARS,  
TRUCKS AND TRACTORS

ALER WHO DISPLAYS THIS SIGN



**The  
Connecting Link is  
Up to You,  
Mr. Dealer**

*Mahogany Dis-  
play Stand  
(19" x 11 3/4")  
For your  
counter*

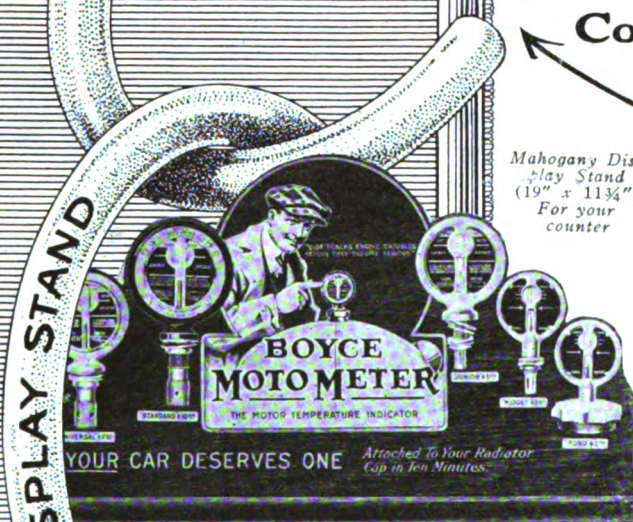
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The "BIG THREE SALES HELPS"  
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Meters, one delivery.

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*Attractive four color  
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"Free"**



# Strength of the Trade

**W**E herewith present the largest and by long odds the best and most completely rounded-out issue that MOTOR WORLD has ever published.

**Q** More than anything else possibly could, it reflects the confidence of the automotive industry in the strength of the automotive trade—a trade that has emerged from the years of world war with vastly better organization, and much more of strength, than we could lay claim to before the nations of the earth began to tear at each other's throats.

**Q** This issue of the industry's dominant merchandising paper should, and we are certain that it will, go far toward putting heart into the men who (during the war period) were obliged to remain in the ranks of industry and trade, and to those others who were fortunate enough to don khaki but who are now returning to take up the work that was interrupted by the demands of military necessity.

**Q** So we greet the trade with this annual Summer Merchandising number and cherish the hope that every copy of the edition will serve the end of building more confidence and giving every dealer, jobber and garage owner a bigger and better vision of the successful future—*successful to such degree as the individual is willing to study, and is willing to learn.*





# SHIMS



*make 'em the  
easy way*

**Just Peel off  
Layers with a knife!**

When you use LAMINATED SHIMS you save not only time, money and labor, but you get far better results—better results because LAMINUM gives a surface smooth as glass and absolutely accurate. Why waste money, time and labor with solid or loose-leaf shims? Use LAMINUM for service, satisfaction and profits.

*Send for Sample*

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nental 7-W, Maxwell,  
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# LAMINUM



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, April 16, 1919

No. 3

## You Must Make a New Start—

*The world is recovering from an upset. Its people are wandering around like a procession that has been broken up by a riot.*

*People are wandering hither and thither, both physically and mentally.*

*They are seeking places.*

*Some will find their old places—and be glad.*

*Others—disregarding the old places—will seek the BEST places they can find.*

*When the order of earth's procession is restored the people who were at the head last year and the year before may not be the leaders.*

*In this settling down and unscrambling, the wise and the speedy will get the choice places.*

*It is every man's opportunity to get off to a fast start and be a leader.*

## This Issue Will Help You Start—

*There are certain things a man may do in this trade to become a leader.*

*There are certain conditions which make it possible for him to make profit this year and build for bigger profits next year.*

*The plans on which you should operate are explained in this issue.*

*If you will make this issue your guide book, and if you will follow all the turns and watch the land-marks, you can be a leader in this field, no matter what you have been before.*

*You must—*

*But study this issue, and—*

**BE A LEADER IN YOUR LINE**

**Make Money in 1919  
Make More in 1920**



# What You Must Do— No. 1

*Make Money in 1919  
Make More in 1920*

## You Must Get a New Mind

*Your Manner of Thinking in 1917  
Will Not Do for 1919 and 1920*

**I**F you grasp the fundamental set forth on this page you will become a changed man—changed for the better.

You must be like "Red," a newspaperman in an Eastern city. He used to be just an artist in an engraving plant.

One day a newspaper said to him: "Could you be a newspaper artist?"

Said "Red": "I never did, but why can't I?" He did it.

Later the newspaper said: "Could you also be our official photographer?"

Said "Red": "I never did, but why can't I?" He did it.

Later the newspaper said: "Could you also write stories?"

Said "Red": "I never did, but why can't I?" He did it.

And not long ago a friend said: "Could you organize and run a jazz band?"

Said "Red": "I never did, but why can't I?"

And that's why he has this winter been the feature of several Eastern motor shows—jazz bandmaster, newspaper reporter, photographer, artist—and successful at all four.

When he sat at an artist's table some years ago he thought only in terms of commercial art. But he acquired a *new mind*. He added the thoughts of newspaper art. Then he learned photography, then writing and then running a band.

In this trade are thousands who have thought in terms of passenger cars and a one-department business, just as "Red" thought only of commercial art.

Can you think in terms of trucks?

Can you learn freight transportation as well as passenger transportation?

Can you think in terms of farm production and farm tractors?

Can you think in terms of farm light, of farmhouse and barnyard comfort?

Can you so revise your old thoughts that you determine to have a successful used car plan, a successful shop plan, and a successful plan for every part of your business?

Maybe you never did, but **WHY CAN'T YOU?**

No matter what you think of your ability to do these things, you **MUST** shape your mind to fit this new situation if you are to be a leader in your line.

You **MUST** do it to make money in 1919.

You **MUST** do it to make **MORE** money in 1920.

If you have watched other men do these things, or have read about them, and have not seriously considered whether **YOU** can do them, you are **IN A RUT**.

Get out of it!

Make your mind cover **MORE** than **ONE** subject. Broaden your activities, even if only to improve and expand the business you already have.

The greatest block to the progress of this business is the one-track minds that have grown up with the easy selling of passenger cars. We haven't even concentrated our minds on used cars and service—only on taking car orders.

**But You MUST Do It To—** **MAKE MONEY IN 1919  
MAKE MORE IN 1920**



*Make Money in 1919*

*Make More in 1920*

## **You Can — If You *Think* You Can**



If you think you are beaten, you are;  
If you think that you dare not, you don't;  
If you'd like to win, but think you can't  
It's almost a "cinch" you won't.  
If you think you'll lose, you've lost,  
For out in the world you find  
Success begins with a fellow's will—  
It's all in the state of mind.



Full many a race is lost  
Ere even a step is run,  
And many a coward fails  
Ere even his work's begun.  
Think big, and your deeds will grow,  
Think small, and you'll fall behind,  
Think that you can, and you will—  
It's all in the state of mind.



If you think you're outclassed, you are;  
You've got to think high to rise;  
You've got to be sure of yourself before  
You can ever win a prize.  
Life's battles don't always go  
To the stronger or faster man,  
But soon or late the man who wins  
Is the fellow who thinks he can.

—*Author Unknown.*



# What You Must Do— No. 2

*Make Money in 1919  
Make More in 1920*

## You Must Departmentize

*You Must Make a Real Business  
Out of Your Business*

**N**O matter how large or how small your business is you must divide it into departments if you are to increase your business and make it of maximum value to you.

If it is un-departmentized it will always be one of the second-rate businesses of your town. Departmentization marks a business as a leader.

Just like houses: YOU have a kitchen, dining-room, living-room, sleeping-rooms and maybe more.

On a certain Indian reservation the Government built houses just like that for the Indians. But the Indians set the stove in the middle of the living-room and stretched out on the floor at night around the stove, like spokes in a wheel, and slept just as they used to when they lived in wigwams.

*That's the difference between the new way and the old way.*

It's the same in business. Modern business—which is going to make money in 1919 and MORE in 1920—is divided into departments.

Separate business activities dumped together in one department get tangled up—and that's about all.

A National Army is nothing else but a group of departments, and not until the separate armies in France were made departments in one great Allied army did success come.

Every big store in your town—if successful—is departmentized—and each department has a manager.

And that's what you must do with your business:

1—Have separate departments.

2—Put a manager in each department.

Maybe you have a shop with only two men. Make ONE of them the shop manager.

Maybe you have only one passenger car salesman. Make HIM the passenger car sales manager.

Maybe you have only one girl as bookkeeper. Make HER the office manager.

Maybe you have only one man who works on your wholesale car sales. Make HIM the wholesale manager.

Maybe one man handles wholesale and retail sales and is the only man in that work. Make HIM the manager of BOTH departments, BUT KEEP THE DEPARTMENTS SEPARATE.

If you take on a truck agency, MAKE SOMEBODY THE MANAGER AND HAVE A REAL DEPARTMENT EVEN IF THERE'S ONLY ONE MAN IN IT.

Delegate certain responsibility to these managers. Make them accountable for things. Tell them they are being given an opportunity to prove their ability to be managers and that the rest is up to them.

YOU are to be general manager. Or, if you have a big business, you should, perhaps, engage a general manager and concern yourself with still bigger matters. The general manager watches all, jumps in here and there where necessary and keeps things running.

Create an organization that will operate in YOUR absence. This will give YOU time to concentrate on the expansion of business. You become a creator of a greater business and the watchdog over operations.

Look at the chart on the opposite page, and then lay your business out on a sheet of paper, decide what each department shall consist of and who shall manage it, and make your business a REAL organization.

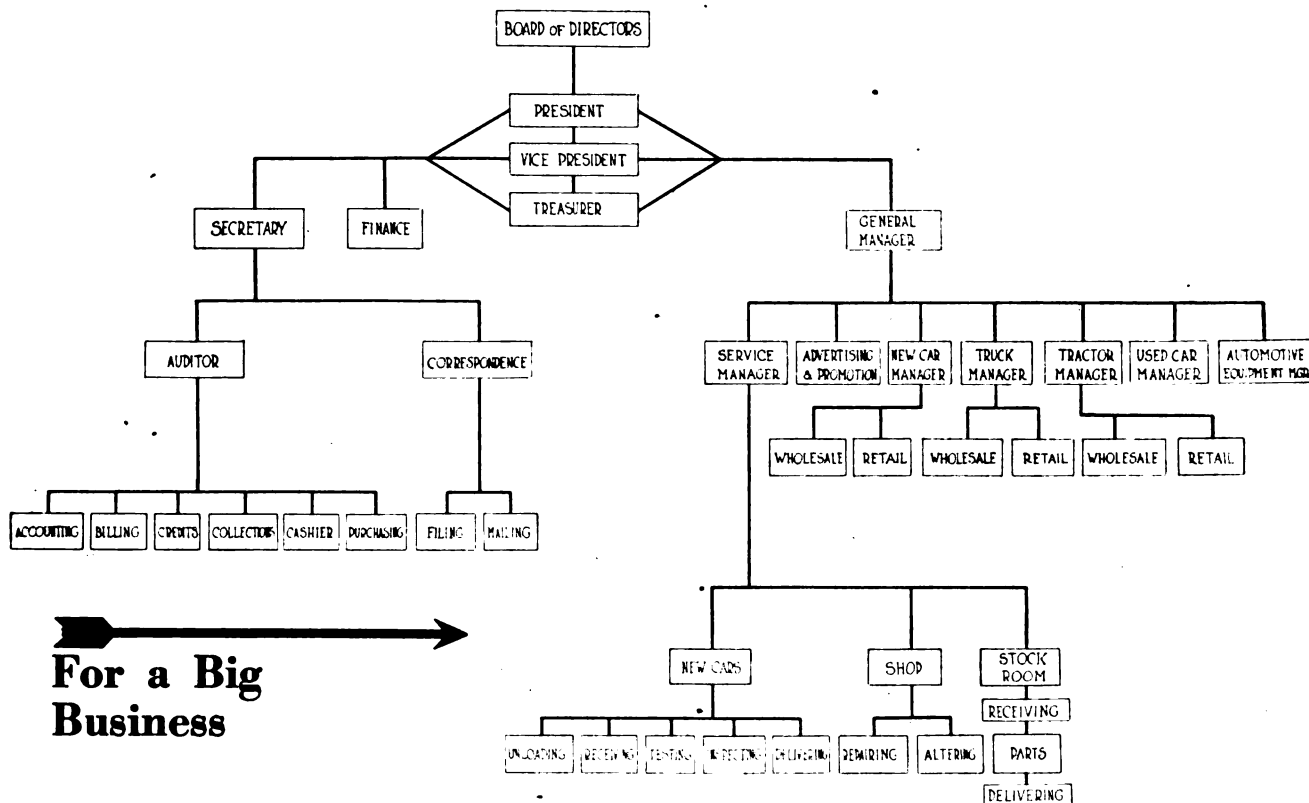
**YOU MUST DEPARTMENTIZE TO**

**MAKE MONEY IN 1919  
MAKE MORE IN 1920**



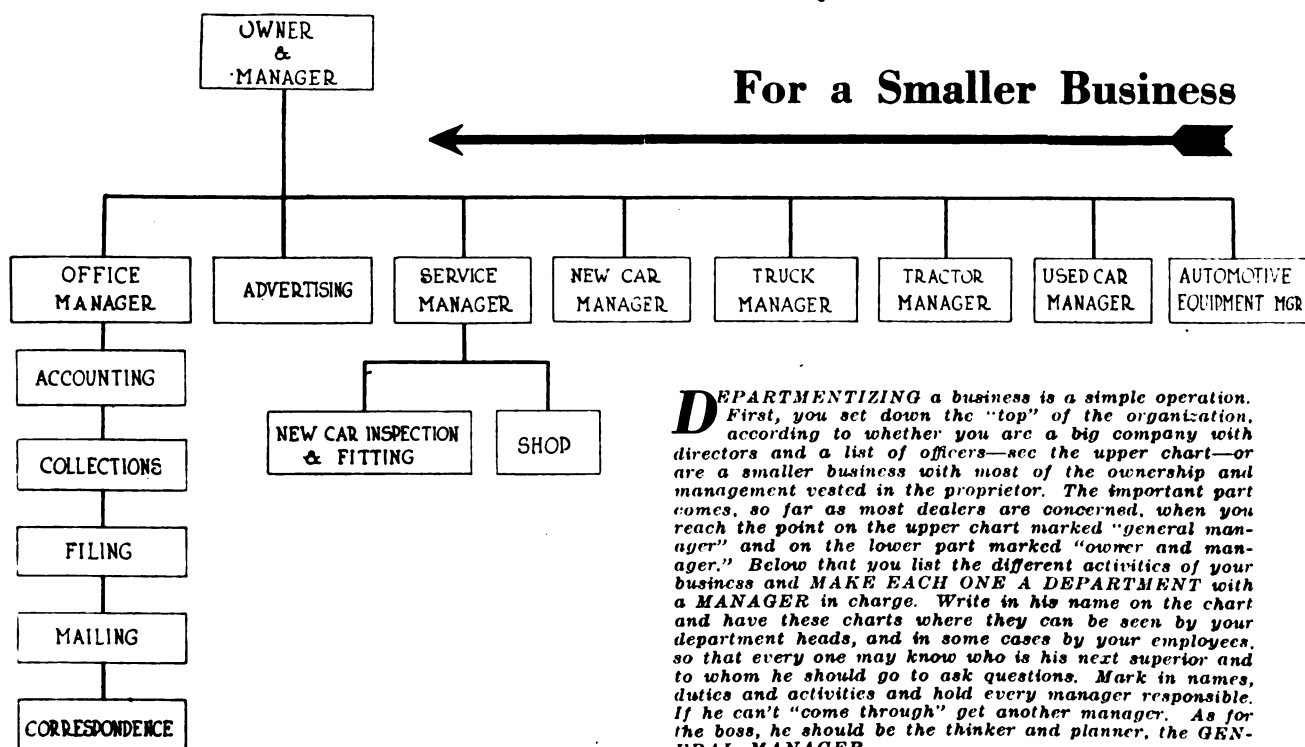
# Here's How to Departmentize

*Make a Chart of Your Organization*



**For a Big Business**

**For a Smaller Business**



**D**EPARTMENTIZING a business is a simple operation. First, you set down the "top" of the organization, according to whether you are a big company with directors and a list of officers—see the upper chart—or are a smaller business with most of the ownership and management vested in the proprietor. The important part comes, so far as most dealers are concerned, when you reach the point on the upper chart marked "general manager" and on the lower part marked "owner and manager." Below that you list the different activities of your business and MAKE EACH ONE A DEPARTMENT with a MANAGER in charge. Write in his name on the chart and have these charts where they can be seen by your department heads, and in some cases by your employees, so that every one may know who is his next superior and to whom he should go to ask questions. Mark in names, duties and activities and hold every manager responsible. If he can't "come through" get another manager. As for the boss, he should be the thinker and planner, the GENERAL MANAGER.



# What You Must Do— No. 3

*Make Money in 1919  
Make More in 1920*

## You Must Keep Books

*And Your Books Must Tell You Things  
You OUGHT to Know*

**I**T is one thing to keep books.

It is another thing to keep books the way they ought to be kept.

Some dealers and garagemen—and even jobbers and manufacturers—keep books because it is the custom in business.

They're like the old Hindoo who was hired to tap car wheels on a railroad in India to see if any of the wheels were cracked. He worked diligently. One day some one asked him why he did it. He said:

"It's been done for years. I don't see much sense in it myself."

So with books. Dealers keep them, but they don't understand the big idea back of the bookkeeping. They don't understand that the big idea in books is NOT to tell you *how much* you made but to point out ways for *doing the thing better and making MORE money the next time.*

The books you kept in 1918 were not so much to tell what you made in 1918 as to help you **MAKE MORE** in 1919.

And the books you are keeping to-day, while they will tell what you make this year, will render their greater service in showing you how to *make more money* in 1920.

A bankbook will give you an idea as to what you make each year, but it won't help you make more money the next year.

**YOU SHOULD KNOW COSTS.**

Your books should tell you what it costs to render an hour of shop labor. Don't delude yourself with the idea that the price you pay the mechanic is the cost of shop labor. It is only a part of the cost, sometimes not one-half.

And if you buy a tire for \$14 and sell it for \$16 you have not made \$2. You probably have lost about \$5.

If you cut the price of a car you are *losing more than you think.*

If you **GIVE** an hour of free service it is costing you more than you imagine.

Your books should tell you not only where you gained and lost and how much, but **WHY.** If you know the **WHY** you can *do better the next time.*

Every time you take a part out of stock and fail to note it on the perpetual inventory cards—if you have them—you are losing money, even though you are paid for the part, because some man must spend his time counting the parts, just as in the old days before you established the inventory system.

And so, you see, the mere fact that you have a book of some kind in which you keep figures, or an elaborate set operated by several accountants, they are not what you **NEED** unless you *make them tell you COSTS and departmental PROFITS*, so that you may find out how you can make more money the next week or month or year.

Many dealers don't know how much it costs them to sell a car at retail. Do you?

How much does an hour of shop labor cost you?

How much does it cost to sell a tractor? And what are the items of cost?

Can you intelligently talk costs to truck prospects?

How much about your business do you really **KNOW**?

Go talk with the best department store man in town and find out what he knows about costs and profits. Then see what you know about your own business.

You may **GET A NEW MIND**, you may **DEPARTMENTIZE**, but if you haven't a real business system you are *walking in the dark.*

Overhaul your system **NOW** and make **SURE** it's right.

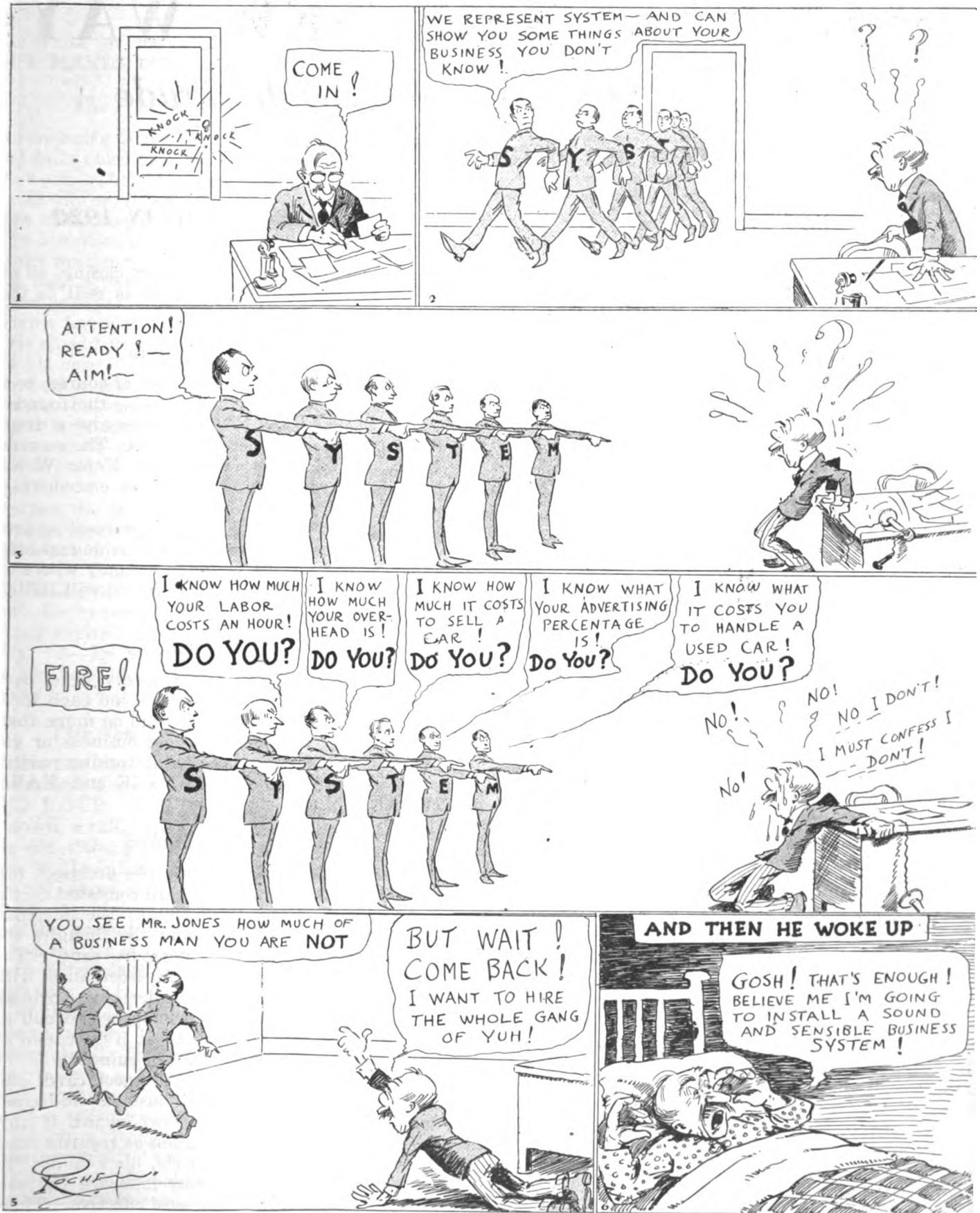
**YOU MUST KEEP BOOKS TO**

**MAKE MONEY IN 1919  
MAKE MORE IN 1920**



# Dealer Jones Wakes Up!

By Rock





**You Must**

# SELL CARS THE NEW WAY

*For the New Way Is the Way of the Trade  
Leader Who Is Going to*

**MAKE MONEY IN 1919**



**MAKE MORE IN 1920**

## *The New Dealer*

**T**HERE are dealers—and NEW dealers. The new dealer is going to make more money than he ever made before, because he is going to operate his business along those modern, intensive lines that have brought success in isolated instances in this trade.

He is not necessarily going to work harder, but he is going to get more and better results financially. He is going to operate on a well-defined plan, by KNOW instead of by guesswork. His net will become larger and his business will become bigger, more solid and more profitable.

The NEW dealer is going to be a factor in his city. He is going to belong to the Chamber of Commerce. He is going to be an authority in big league circles. And with it all he is going to be new in many ways.

## *The New Business Home*

The new place of business is the starting point of it all, after the dealer has acquired a new mind—see page 8—has departmentized—see page 10—and has an adequate business system—see page 12. Then he gets his place of business right. And let it be said here, that—

*Some of the biggest dealers in this trade have the poorest kept places of business. Because they are big they have thought themselves above the possibility of improvement. And some of the smallest dealers have the best places.*

In this NEW place of business—which is only the old place with a new master—the floor will be mopped every morning, there will be no jammed, crowded salesroom, there will be no littered desks, no lounging salesmen, no cheerless front door.

There will be rugs, palms, ferns, up-standing salesmen with a glad hand at the front door, up and on their jobs, gray or light green walls that do not jar the prospect's senses, plenty of light, real window displays—in other words, a real house for merchandising, run by a real merchandiser.

There will be tables for literature, with the literature in neat piles—and kept neatly piled by a porter or other member of the organization, even if it is a one-man organization. There will be chairs for folks to sit in, a cosy corner, a little private office with a desk, contracts handy, blank checks handy, soft lights

and everything made easy for contract closing, all of which can be a part of the smallest as well as the largest place of business.

## *The New Prospect File*

Under the new sales plan there will, of course, be a prospect list, but it will be a list that is the foundation of the business and NOT a burden and a drag. The list will be in a neat set of drawers. The records will be on up-to-date prospect cards. Motor World can furnish a card if you can't get one elsewhere—see page 93.

On the cards will be more than the prospect's name and address. The data recorded will provide real help in selling. It will tell the salesman not only where to go but what to do when he gets there. It will HELP the salesman sell.

## *The New Sales Manager*

The new sales manager will take a very direct part in the work of the salesmen. He will aid each individual man in making a sale. He will do more than send the men out with orders to get business or get out. He will plan sales and be a vital working part in every transaction. He will MANAGE and EARN MORE SALARY.

## *The New Sales Method*

The name of Smith is put into the prospect file. In the old way the record on the card consisted of the name and address, and that's about all. The salesman put down whatever dates—if any—he thought the prospect should be seen or literature sent. The various sales moves were made in accordance with these notations, and some of the sales came through and some didn't. If a salesman happened to call at the right time he was successful, but if he called at the wrong time he set the sale back or ruined it.

Under the NEW method the prospect card contains Smith's name, house and business addresses and telephone numbers, make of car owned, if any, its year and character, the situation as regards trading, the makeup of Smith's family, his hobbies, the members of his family who may influence the sale and the sales points that will be most effective. There is also set down some identifying bit of information



which helps the salesman make a good connection when next he calls.

For example: "Saw Smith at office. Closing deal in Fernwood subdivision. Big thing if goes through. Will retail building lots. Should close deal 6th. See him 7th."

Lot to write for one call, isn't it? But is it too much if it **MAKES THE SALE**?

### *The New Sales Meeting*

On the morning of the 7th the sales manager holds his usual daily morning sales meeting before the men begin to work. The old method was to have no sales meeting at all, or, if any, to devote it to a general discussion of nothing in particular, the sales manager paying no attention to the individual calls of the day.

The sales manager goes over the cards, one by one, planning any action possible. As he reaches the Smith card he says:

"If Smith has closed this deal he'll be ready for a car. He should close with us to-day. The salesman can help his case if he goes down there to-day with the names of a few prospective buyers of building lots, because that's what Smith is interested in. Do any of you boys know of any newlyweds or people who are tired of paying rent, or who have some money to invest in real estate, who would be good prospects?"

Whereupon the sales meeting produces the names of several prospective real estate buyers and the Smith salesman jots down the names for use in the sale.

The salesman then goes to Smith fortified in two ways: 1—He knows the conditions under which he is attacking Smith. He knows Smith has hit some prosperity. 2—He is in a position to do Smith a favor at the beginning of Smith's enterprise, all of which helps to create a favorable impression.

### *The New Sales Follow-Up*

The salesman may not get Smith's order. If he doesn't he makes a new appointment at a **DEFINITE DAY AND HOUR**. Under the old system the salesman set down a call for the 5th, 10th, 15th, 20th or any other old date, which meant that there was no connection in the minds of either salesman or prospect between successive calls. The salesman had practically to begin over again each time.

Between the present and the time of the next call—unless it is a matter of hours—the salesman suggests that certain letters or literature be sent to Smith.

For instance: If the sale is that of a sedan and if Smith is doubtful as to the desirability of a sedan the salesman notes: "Send sedan rainy-day letter on first rainy day." Then, if it rains before the next call the girl sends a letter special delivery setting forth the desirability of a sedan on rainy days, with a picture of a sedan suitable for this letter.

Or: If Smith is strong on service, because of previous experiences with other dealers, the salesman notes that on a certain date a certain service letter or testimonial is to be sent. All this the sales manager approves and directs.

Then, when the **DEFINITE DATE** comes around

the salesman makes another call. Because of notations he made after the preceding call—just as he makes them after **EVERY** call—he is fortified before he leaves the salesroom. He doesn't have to walk around town wondering what his attack is going to be.

**IF THE SALESMAN CAN'T CLOSE THE DEAL IN THREE CALLS ANOTHER SALESMAN IS GIVEN A CHANCE, and—**

**IF NO SALESMAN CAN CLOSE THE DEAL SMITH IS WIPED OFF THE SLATE AND A NEW AND LIVE NAME PUT ON.** No time is spent working for weeks and months on dead wood. If they're alive they'll buy and if they're dead they're better off the list. Put 'em in the dead file and save them for a rainy day.

### *The New Service*

After Smith has bought a car a service-man-salesman, who **KNOWS** service and also selling, goes around and calls on Smith to ask if the car is going all right. This man may make some little adjustments, listen to the motor, drive the car around the block, give a bit of advice, **ASK SMITH IF HE KNOWS OF ANY OTHER PROSPECTS**, and then he's on his way to the next place.

This man digs up many prospects and he builds mountains of good-will. He also bears in mind that the policy of the house is **SOLD SERVICE** and he recommends that the car be sent to the shop **IF IT NEEDS IT**, for which service Smith **PAYS**.

### *The New Sales Records*

The sales manager keeps accurate records. He makes figures make money for him in 1919 and more in 1920. He has a chart on which are curves. One curve tells him how many cars were received from the factory. Another curve tells how many were sold. Another tells how many were trades. Another tells him something else, and week by week he watches the business grow. If the curve starts downward in the wrong place it is a danger signal and he gets busy. The **OLD** method does not include curves at all. The sales manager just rambles along in the twilight and guesses at things.

For example: **THIS** month a year ago sales may have started to pick up. If they don't start this year there is a reason, and the curve will suggest that the manager get busy and find out why.

Or: The curve may show that there were 20 per cent more orders than could be filled in July, August and September. The new sales manager will have used cars overhauled, slip-covered and repainted during the spring or winter and will sell them at good prices in these three months to prevent his customers going to some other dealer for less attractive new cars.

Also, he will know that the used car demand is for small cars, so he will take small cars in trade on big used cars and will make a profit on every deal. He will learn that moneyed Italians and Poles, in the city's foreign colony, are excellent sedan prospects. He will learn a lot of things that will make selling easier. He will not work any harder but he will make money in 1919 and more in 1920. [Turn page]



### The New Salesman

The new salesman will be a salesman first and a mechanic second. He will talk about the needs and pleasures and desires of the prospect and not about the car. He will sometimes sell cars by talking about things entirely foreign to the car.

He will study the methods of successful salesmen in other fields. He will study books on selling. He will read the trade papers and be posted on what's going on in the trade. He will take an interested part in the sales meetings of the organization, and if the organization doesn't live up and hold sales meetings and help the salesmen be more efficient he will wonder what's the matter with the outfit he is working for.

He will look the part. His shoes will shine; his clothes will be pressed; he will get his hair cut every three weeks; he will shave every morning; he will also take a cold bath every morning; he will be on the job at the sales-room door with a studied greeting of welcome; he will not have cigarette-yellowed fingers; he will throw away his cigar or cigarette before entering any man's office or home; he will make himself look pleasing to the prospect and will not omit any detail that may lose him sales—and commissions.

The old salesman didn't seem to give a hoot. He will be superseded by the NEW salesman, who *will make money in 1919 and MORE IN 1920.*

## The New Ways of Trade Leaders

[How They Are Selling New Cars]

### Advertises Shortage

We have found the best pulling power of advertising for cars just now to be the probable scarcity, backed up with our refusal to promise certain makes of the cars we sell for immediate delivery.—H. Milton Koenig, publicity manager, Weber Implement and Auto Co., St. Louis.



### Forget That Price Thing

We and our dealers have found the best method of getting present prices is to ignore the advance entirely and just say "the price of this car is \$XXX." Most people are used now to the advances. If they insist we merely talk about the high prices of labor and materials.—Joseph A. Schlecht, president Mound City Auto Co., St. Louis.

### Here's a Good Play

One of the strongest weapons against talk of high price of cars is in the hands of the motor car merchants who mix in social affairs. Wherever you go the motor car becomes a subject of discus-

sion. Your friends all want inside advice. By all means give it to them. Tell them the day of the 1913 prices are past and are never to come again in our active experiences. Materials will be high for years, so will labor. Remind them that they are enjoying a better income, so must the other people.—Joseph A. Schlecht, president, Mound City Auto Co., St. Louis.

### How About YOUR Income?

Our best argument in selling cars at present prices is to ask the customer if the advance equals their income increase due to the war. We also ask if they would be the first to take away from labor the increase before a lower cost of living is provided.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

### No Chance of Cut

We figure that car manufacturers are now buying materials for use in manufacturing motor cars during the coming six or eight months and that labor costs will not be much less if any. Thus we can show the prospect where there is little likelihood of a reduction in prices in the immediate future at least.—H. B. Snyder, general manager, Snyder Auto Co., Columbus, Ohio.

More ideas on pages 17-40-41-57

### Uses Motor World Plan

The system of giving service as prevails in our service station is taken bodily from an article which appeared in the Motor World. We would not be without the paper for anything. We find it invaluable in looking after economies and in systematizing our business.—H. B. Snyder, general manager, Snyder Auto Co., Columbus, Ohio.

### "Ganging" the Dealer

They're coming in bunches to buy cars this year. Two or three, or maybe four men, close friends, will decide they will get the same make of car; they leave it up to the single member of the group who already owns an old car. The owner is not modest about claiming that if he gets a liberal allowance he and the others will buy. I can usually hit off the truth. But I have had to turn down many a proposition of this kind. It's a pleasant bit of cooperation among friends that is being practised—if the used car owner gets a long allowance, and the three friends were in a frame-up, there are plenty of excuses to devise for not buying.





### Meeting Price Argument

Difference in cost of automobiles can soon be made up in the higher cost of service, is our principal argument in combating the price question. We show the man where the cheaper automobile will soon cost him as much as our line in higher service and repair charges.—H. B. Snyder, general manager, Snyder Auto Co., Columbus, Ohio.

### "Waiting for Price Fall"

In arguing with a prospect about the possibility of a reduction in prices within the next six or eight months we show where it can only be slight, and, if it be \$100, that amount proportioned to each of the six or eight months would not pay a man from being without an automobile. In other words no man who is able to own and operate a motor car would deprive himself of an automobile for that period for \$15 per month.—H. B. Snyder, general manager, Snyder Auto Co., Columbus, Ohio.

### Business IS Good!

If a man tells you that business is not good don't wake him up, as he is sleeping. I have been traveling around since the first of the year in many of the larger cities and in many instances have failed to get the hotel accommodations I desired. Thus, he who says that business is punk does not know what he is talking about and please let him sleep.—Ralph Wilson, manager, Columbus Cadillac Co., Columbus, Ohio.



### Meeting "Price Reduction"

When a prospect is disinclined to purchase a car, giving as his reason that he is awaiting a fall in price, we tell him, when it happens to be true, as in the early spring season, that we can sell him a better car for the same money now than he can get later, for the reason that the factory has made a special reduction to stimulate sales, but that cars sold at this figure later in the season will be built and equipped to meet the figure—that is, the

## SELL CARS

**Make Money in 1919  
Make More in 1920**

*More car sales ideas on pages  
16-40-41-57*

present cut-price car is really worth the schedule price and is a better article than he can buy later for the same money. If it's financing he needs, we recommend one or two automobile financing concerns of high grade, of which we have personal knowledge.—E. W. MacQuivey, sales manager, Parker Motor Sales Co., King, Philadelphia.

### No Drop Likely

We argue with the man who says he believes that motor car prices will be reduced, that as long as the factories have to pay the present prices for materials and labor there is little likelihood of a reduction in the selling price of automobiles in the near future, that is within six or eight months. We show him that lower prices are entirely unlikely under present inflated labor conditions.—Oscar Lear, president, Oscar Lear Motor Co., Columbus, Ohio.

### "All Right! Good-bye!"

When a buyer insists that he's going to wait until prices come down I courteously say "All right! Wait! Good-bye." I point out that really there are more prospects than cars this spring, and that the particular point of possible lower prices isn't one for me to spend any time arguing about.—Fred L. Ermis, Moriarty Motor Co.

### Gave Him a Ride

How do I meet the objection that a man does not want a car? Let me tell you how I sold one. As I was drawing up to a hotel I saw a man who ought to own a car coming out. I invited him to take a spin. That was all—but next day he came around and bought a car.—F. M. Ephland, Roamer Motor Co., Kansas City.

### Small Raise, Good Value

We have an argument that is a corker when it comes to answering a prospect who says he believes that car prices will be reduced. We simply show him that our line has only been increased \$15 during the

war and that we are giving him a much better car now than we were when the price was slightly lower. So there is little difficulty on that score.—H. K. Dobson, president, Everett Motor Car Co., Columbus, Ohio.

### Show Him It's Bunk

When a man starts to talk bad business conditions we simply do not listen to him. It is too ridiculous to say that the country is not prosperous and thus we soon shut him off on that line of talk. We soon show him that he is talking through his hat, so to speak, and that business conditions generally are prosperous.—H. K. Dobson, president, Everett Motor Car Co., Columbus, Ohio.



### Up to the Manager

I believe that the best plan to sell motor cars is for the sales manager to get down early in the morning and confer with his salesmen before they start out to see prospects. Thus I am down at the office every morning at 8 a. m. and have a talk with my outside men before they start. I find that pays more than any other feature of the business. It shows them that the manager is willing to give up his time to make the business go and thus instills enthusiasm into the men.—Manager Gilmore, Studebaker Sales Co., Columbus, Ohio.

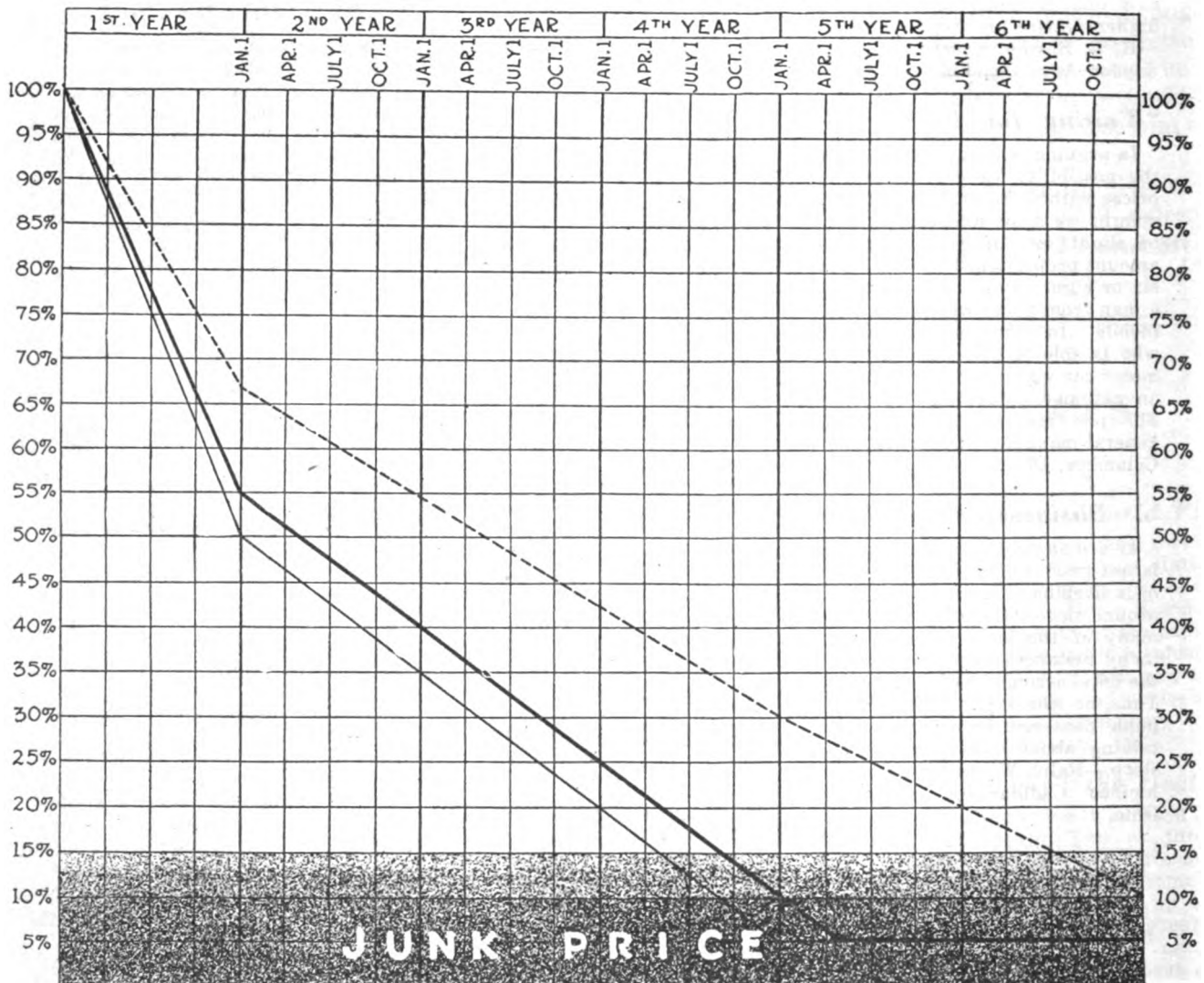
### Cuts Demonstrating Overload

We have a car for every salesman, for calling on customers and giving demonstrations, but we demand that each salesman sell his car every four months, at the end of which period, of course, we furnish him with another. The idea is this: If he turns his car over within four months, it brings within \$100 of list price, makes a small margin and cuts down our overhead. We keep the salesmen's cars in repair and furnish them with 50 per cent of their gasoline, but they must store them, unless they keep them in our garage.—O. S. Compton, sales manager Z. S. Vertner Motor Sales Co., Oakland distributor, Philadelphia.



# Figure Your Used Car Values

ON THE MOTOR WORLD USED CAR CHART



1919

1918

1917

1916

1915

1914

## How to Use the Chart

1—Place your finger on the years at the bottom of the chart. As you touch "1919" say "one." Count to the right to the year the car is labeled. A 1917 model will therefore be "three." A 1919 model will be "one"—it was made last summer and is now considered by the buyer as one year old.

Let us illustrate with a 1916 Hudson. It is now, according to the chart method, four years old. Find where the BLACK LINE crosses the April 1 line in the Fourth Year. The percentage is about 20.

3—Multiply the present list price of the Hudson, \$2200, by 20, and you get \$440. This is what the car should be worth to you "as is."

NOTE—Note that we have taken today's price instead of the 1916 price. This is because used cars compare with what the new car market is today and not what it was three years ago. In cases of models that have been little changed, as is the Super-Six or the Dodge, this method applies. In case a model has been greatly changed use the list price at the time of sale and add from 5 to 10 per cent, according to the standing of the car in your section. An important fact is that well-known cars of good value which were one year old last year are worth about the same price this year as last year, although they are now one year older.

4—To the \$440 add 40 per cent, which gives \$616. This is what the car will be worth when fixed up properly.

5—Check the car and find what it will

cost to fix it up, display it and sell it at a net profit. Let us say \$110.

6—From the \$616 subtract the \$110, which gives \$506. This is what you should allow.

7—Always scan the resale figure arrived at in paragraph 4, the \$616. If your judgment tells you—but make it tell the truth—that the car will bring more or less, adjust the figure slightly before deducting the overhaul cost. In the case of this Hudson it may bring a little more but not much. Generally, however, the figure will hold good for well-known cars of good value. In the case of discontinued models play pretty safe. They are risky.

The upper dotted line is an absolute maximum limit and should be generally disregarded. Stick to the black line.



## You Must

# Handle Used Cars in the New Way

*If You Are to Be Assured of a Profit in This Department of Your Business—This Plan Will Help You*

**Make Money in 1919**

**Make More in 1920**

**T**HE FIRST STEP is for the dealer to determine that he is going to take hold of his used car problem in a virile, rough-handed way and take the kinks out of it. He must decide in his own NEW mind that he is going to cut out his used car losses and is going to make money on used cars.

Then he must adopt a plan which, figured out on paper, will bring him profits, and then he must stick to this plan **ALL THE WAY THROUGH**. Money CAN be made on used cars, but they must be handled in the NEW way. Unless the NEW way is adopted the business will continue to be a problem.

## The New Used Car Plan

Under the new used car plan a profit is made on the handling of the NEW car, and a profit also is made on handling the OLD car. Every time a piece of merchandise is sold the dealer **MAKES A**

**PROFIT**. It is foolish to make a profit on the NEW car and then sell the old car at a break-even. That amounts to cutting prices on yourself. If you can't make money on used cars, quit trading.

**A**S a starter, organize a **USED CAR DEPARTMENT** and in that department have a sales manager and an appraiser. Perhaps both will be the one man, but have such a man, or men, and then let them run the department. Don't butt in all the time and upset what they **KNOW** is the right procedure as to prices.

Take cars in at prices which will permit you to (1) fix them up and (2) sell them at a profit.

When a car comes in for trading call on the used car appraiser to give you a price on it. The appraiser **KNOWS** what the car will sell for when put in good condition. He **KNOWS** this from his knowledge of the business and from using other things, such as the Motor World Used Car Chart, illustrated on page 18, and the National Used Car Market Report, which is published by the Chicago Automobile Trade Association.

This appraiser sets the price at which the car will resell. Let us suppose it is \$700.

He then inspects the car, checking it on a used car check sheet, which Motor World can supply. He then figures what it will cost to fix the car up, including paint and slip covers if they are needed. Let us suppose that this is \$100.

He then jots down a certain percentage of overhead. This figure is the rent, light, heat and office expense of the department for a year divided by the volume of business done in the department in a year. Suppose you sell \$20,000 of used cars a year and your overhead is \$2,000. Divide \$2,000 by \$20,000 and you get 0.10. Therefore your overhead is 10 per cent, and 10 per cent of \$700, the selling price of the car, is \$70.

There is then a 5 per cent salesman's expense, which is \$35.

There is also a 10 per cent profit, which is \$70.

The appraiser, or used car manager, adds \$100 for overhaul, \$70 for overhead, \$35 for salesman's commissions and \$70 for net profit and gets \$275. He deducts this from the \$700 sales price and gets \$425.

**IF YOU ALLOW A CENT MORE THAN \$425 FOR THIS CAR YOU ARE TAKING THAT MUCH OUT OF YOUR CASH REGISTER AND THROWING IT AWAY.**

You may say: "But we can't sell NEW cars unless we give more than that for the old cars!"

To which the NEW used car plan replies: "Then there's something the matter with your sales organization."

And it adds: "And unless you can handle used cars in this way and

**MAKE MONEY ON THEM** the only way left is to **QUIT TRADING**."

Money is being made by some dealers in just this way. They have been handling used cars in this NEW way for quite some time and have been making money at it. These dealers are the ones who look and **ARE** prosperous. The signs over their doors don't change every few years. They are sound, solid and substantial. They are business men. They know that it is a crime in business to handle merchandise year after year and **NOT** make money on it.

If a car is worth so little that it doesn't pay to fix it up, sell it to the junkman or to some mechanic who wants something to putter around with. And take it in at a figure that will net you a profit.

There has been entirely too little money made heretofore in the motor car business. But the money is here and can be made. It is mostly a question of the **DEALER AS A MAN**. It is **NOT** the fault of the business. Get the boys in your town together and talk this thing over. Tell them it is necessary if they would

**MAKE MONEY IN 1919**  
**MAKE MORE IN 1920**



# Imitate These Successful Men

## *In the Way They Handle Their Used Cars*

### **How to Make Money on Used Cars**

To make money on used cars it is necessary for the dealer to have the equipment for thoroughly overhauling them. It took us some years to learn that, but since we did learn it we have made money out of our used car department. We never send a used car out that has not been overhauled and put into good running condition in our own shop and by our own mechanics. Then when we sell it we give a 30-day guaranty on it and during that time fix anything free of charge which is manifestly the fault of the car.—Earle Black, Pella Motor Co., Pella, Ia.; Overland and Moline-Universal.

### **Uses Before-War Argument**

Customers are asking higher allowances on used cars; we point out that our new cars are priced on a post-war basis, and that must be the basis of trade-ins.—Fred L. Ermis, Moriarty Motor Co., Kansas City.

### **Here's Another Way**

I buy a used car once in a while, but usually take such cars for sale on commission, after the owner has paid me for putting it into running order, painting, new tires, etc. I pay for advertising, deducting that cost and cost of gasoline I put into the car, from the commission on my books. The net proceeds of the sale I enter on my books, which show my commission of 5 per cent, the cost of the advertising and gasoline, but not the amount of money the car sold for.—J. L. McMahon, Westport Garage Co., Kansas City.

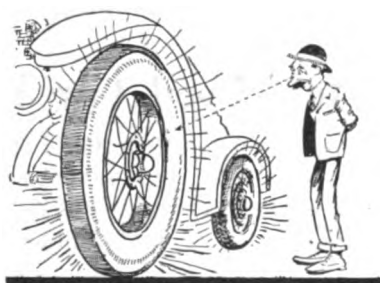
### **Is This Ethical?**

Ever try a "blind ad" to get prospects? A Sunday ad of this kind brings five to ten inquiries—and one sale a week. The manager takes a used car home with him, so that he can truthfully advertise in the Sunday want ad columns, that there is a used car for sale at his residence address. Men thinking of buying cars sometimes assume that they can get a better bargain from a private owner than from a dealer. The used car man gets the names of the prospects this way. Then a salesman is sent to see the

inquirer, suggests that he understands he is in the market for a used car and proceeds to sell him one. Note that the blind-ad procedure is used merely to get the names of prospects, the sale being from the dealer's stock.—Used Car Dealer.

### **Tires Half the Sale**

Good-looking tires sell more used cars than anything else. If the tires look good, the customer says to himself, "I won't have to buy any tires for a year, anyway." If



tires are bad, he says, "Now, I'll have to spend \$200 for tires pretty quick—might as well buy a new car."—J. L. McMahon, Westport Garage Co., Kansas City.

### **Clean Under the Hood**

A can of gasoline and a brush put to work on the motor will do more than new paint on the outside to sell a used car. The customer who sees a nicely painted used car, looking pretty, and who lifts the hood to find the motor covered with dirt and grease, thinks you have been camouflaging—and no amount of demonstration of the good condition of the motor is going to change his mind. If the motor is clean the outside can be as dilapidated as you please—the customer will know that can be fixed easily enough.—Will L. Ermis, Moriarty Motor Co., Kansas City.

### **Looks Count**

If a used car looks good, is well painted and has good tires it will sell more easily than if it looks ragged and has a good engine. Women buy most of the cars—and they pay most attention to looks. A person is taking a chance anyway, in buying a used car, and I haven't had any unpleasant expe-

riences with people dissatisfied with performance. I try to get the car running well, of course—but never neglect the appearance.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Stick to Sensible Prices**

I have trained our sales force not to be afraid to let a sale of a new car go when some other dealers bid up the price of an old car on us. We primarily fix the price of a used car by the used car book, subject to deductions if it needs much work and a slight increase if it is in especially saleable condition and the market is good. But we refuse to change the price after it is fixed. The other man is then welcome to the sale.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

### **Used Cars for the Country**

We have arranged a very happy solution of the used car problem by trading for only our own cars and a very narrow line of others. In our own cars we have an outlet among our country dealers, who can use them at any time after we overhaul them and give them a coat of paint. We take in so few of the others that we do not even maintain a used car display.—Joseph A. Schlecht, Mound City Auto Co., St. Louis.

### **Guarantee To-day Only**

Never guarantee a used car for tomorrow. State its condition to-day and give the prospect a ride in it. You must, before it is placed on the market, have replaced defective parts and so state. But make no promises or you will be in trouble forever.—Tom Robertson, used car salesman, Weber Implement & Auto Co., St. Louis.

### **Set Your Own Prices**

Never let the man selling a new car set the price on a used car. He is looking to make a new car sale and forgets the man who must make the used car sale. Judge the car in front of you, by a knowledge of that car, the work required to put it in running condition and stand pat.—Tom Robertson, used car salesman, Weber Implement & Auto Co., St. Louis.



(8)

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# He Should Worry! Let'er Rain!





# THE FLAT RATE PLAN

## for SELLING SERVICE AND REPAIRS

By **PERCY E. CHAMBERLAIN**

### Explanation

*This story tells how a successful dealer took the trouble, grief and money loss out of his service and repairs. He is able to-day to collect bills of \$700 and \$800 without complaints or adjustments. The story is told here for the benefit of other dealers. With this story is a supplement showing the manner in which the forms and records are kept under this plan. Preserve the supplement and have it in front of you as succeeding chapters of the story appear. It will run through several issues. A study of this story may mean thousands of dollars to you. Motor World believes this is the most comprehensive and intelligent solution of the service and repairs problem that has ever been worked out. The plan is in operation in the house of the Cadillac Motor Co. of Denver and the story is told by the manager, Percy E. Chamberlain, who worked it out.*



PERCY E. CHAMBERLAIN  
General Manager of the Cadillac Motor Co.  
of Denver and Originator of the Flat  
Rate Plan

### FOREWORD

**B**EFORE a repairshop can possibly install the FLAT RATE method of handling charges a complete understanding of the fundamentals involved is absolutely necessary.

Not only is the repairshop itself affected, but certain methods of keeping time, of checking time records, of division of general ledger accounts and of selling the work in the beginning are necessary if the plan is to be entirely successful.

Therefore, in the following detailed story the author has had to presume that the Plan is to be adopted by a repairshop which has none of these things and wishes to start from the very bottom. Otherwise the explanation would be but partially complete.

Part of the records and system necessary are being kept by many shops in greater or less degree. These shops will be that much further along on the way to a complete adoption of the Flat Rate Method of Repairing.

It is NOT the intention of the author to advocate any certain system, and the blanks which accompany the following explanation, while demonstrated by practice as being good ones to use, are not, perhaps, the only ones which could be devised.

However, any shop which attempts the Plan WITHOUT going into the details necessary to its complete success may count itself lucky if it does not lose more than it gains.

Accuracy of his cost records is the FOUNDATION upon which any merchant must base the retail price of his wares.

The merchant selling labor and supplies can no more

guess at his costs than can the dry goods or grocery merchant.

Since flat prices must be based upon costs—NOT upon an arbitrary \$1 or \$1.25 per hour—the system of keeping these costs *must be faithfully followed for a long enough period to give reliable averages.*

The Flat Rate Plan can be adopted by ANY repairshop, regardless of the character of its business. It will be *easiest* for the shop handling one make of car exclusively and *hardest* for the general repairshop which repairs any make of car.

However, the method is the same in both cases. One is simply a matter of more records than the other. Once the system is planned and the method of keeping these records provided, the actual work is no greater in the case of the general shop than it is for the one-car repairman.

It took Thomas A. Edison a long time to make the first electric light. In a few words he could tell anyone how to make one to-day. It is the same with the Flat Rate method of repairing. The author worked the plan out in his own business only after months of hard work. A trail, heretofore unmarked, had to be blazed. Theory had to be put into practice.

Repairshops, generally speaking, are *weak on accounting*, regardless of whether it involves financial matters or time keeping. *Unless the repairshop is willing to start at the bottom, throw away many time-honored customs and stick to the thing day after day and month after month, it is useless for it to attempt to attain the Flat Rate Plan of Repairing.*

The Plan is not alone a matter of records. It must



### THREE PARTS TO THE STORY

*This explanation is divided into three distinct parts which the reader should firmly fix in his mind at the start.*

**PART ONE**—Covers the preliminary work necessary for the repairshop to do before it can actually prepare and work under an exact **FLAT RATE SCHEDULE OF PRICES**. Since the Flat Rate Price Schedule is based upon the costs of the individual establishment, this preliminary work is absolutely essential.

**PART TWO**—Covers the preparation of the Flat Rate Price List after the preliminary work has been done. It shows how the orders are handled under the system and how averages are kept to prove out the charges.

**PART THREE**—Covers the method of selling repairs under the Flat Rate Plan, the method of making written estimates and of writing the orders. The plan is new to the customers of the repairshop which adopts it and it is vital to the success of the plan that it be constantly **SOLD in the RIGHT WAY**.

consider the psychology of salesmanship—of dealing with the public. If the reader does not thoroughly understand the meaning of "psychology," he should immediately get his dictionary. This understanding is necessary to any one who attempts to serve the public in any capacity.

The Flat Rate Plan does not make any attempt to change the public with which you deal. It simply changes repairshop methods to *fit this public*.

Instead of *antagonizing* your customers at every turn because of indefinite methods, it pleases this public because it gives it in the automobile repair business what it expects in other lines—*definite transactions*.

In giving this explanation to the thousands of repair-

shops of the United States, the author feels a certain sense of responsibility to those who adopt the Plan for its successful operation in their individual businesses. Therefore, he will be more than pleased to give the benefit of his experience with it to those who, from time to time during the course of its adoption, care to write him specifically as to their individual problems with it.

Of necessity the explanation must be general. Its adoption by the individual may mean certain minor changes depending upon the individual's own local arrangements.

The Plan, if faithfully followed, will mean *cleaner business, satisfied owners and GREATLY INCREASED PROFITS*.—THE AUTHOR.

#### PART ONE

##### Chapter I

##### Keeping the Necessary Averages

**I**T is safe to say that every automobile repairman in the country would like to be able to tell each customer who comes into his establishment, in advance, *just what the labor charge for the work ordered will be*.

They recognize that the per-hour charge for labor is not a success—that it leaves too many loopholes into which misunderstandings may enter between the time the car is left for the work and called for by the owner upon its completion.

This **FLAT RATE** method of repairing has been used for several years by the Ford organization, but, to the best of my knowledge, it has never been successfully worked out in the case of a general repairshop or one handling repair work on so-called high-priced cars.

This explanation tells how it may be done, but, first, the repairman *must have a clear understanding and conception of just what he is striving for, and he must discard, if the plan is to be successful, many of his methods which, contrary to the fundamentals of good business, he has up to now considered absolutely necessary*.

##### Remember These Words

In this explanation the word "*repair*" will apply to that part of the work on automobiles which has to do with *mechanical repairs*. Painting, trimming, body building and other allied trades can be worked out along the same lines but in much simpler fashion. "*Repairman*" refers to the owner of a repairshop.

##### Public Is Judge and Jury

It must be clearly understood, first of all, that the public you serve is judge and jury and that the most beautiful theory must, before it can be said to be

successful in practice, receive the favorable verdict of your public. Many of the things you are requiring of your public are unnecessary. Others, which the public requires, you are not doing. (*Throughout this explanation when I use the personal pronoun it applies to the individual reader in greater or less degree as he may or may not have advanced in method in his repair business.*) The methods advocated here are not theory alone. They were originally based upon business practice in other lines and applied with most favorable results in a large repair business. *They increased volume, eliminated complaints almost entirely and DOUBLED PROFITS*.

The length to which this explanation must be confined does not permit the author to enter into any lengthy argument as to reason why any certain method is advocated. If the reader looks below the surface and will compare these methods to other lines of business of sim-



ilar nature he will readily recognize that the bedrock principles are sound.

#### All Departments Must Be Reformed

The repairman, then, must approach this FLAT RATE explanation with an open mind. He must realize that the reform is not alone in his shop proper; that it has to do with other branches of his business, such as billing, bookkeeping and office records; that, having inaugurated the Plan, it is still necessary to SELL it to the owner; that his methods of selling the repairing—his arrangements at the point of contact with the owner—are *far more important than the way the work is actually performed*. He must realize that every step must be backed up by the way he handles his orders, customers' invoices and general ledger accounts. IF HE IS NOT WILLING TO REFORM THESE NECESSARY BRANCHES OF HIS BUSINESS—ALL OF WHICH ARE A PART OF HIS EVERY BUSINESS TRANSACTION WITH THE CUSTOMER HE SERVES—THEN HE CANNOT POSSIBLY MAKE A SUCCESS OF THE FLAT RATE METHOD.

To illustrate what I mean, let me say that confidence upon the part of the public served by any concern regardless of its line of endeavor comes about through years of prompt service, courteous treatment and good merchandise backed up by a faithfully carried out guarantee.

No merchant can force this confidence, no matter what his statements SAY—no matter what he requires the customer to SIGN. *Thus, the repairman cannot force poor work upon his patrons because he forces them to sign an order for the work. He cannot justify excessive charges, wasted time in his shop and unbusinesslike methods of keeping track of that which he has charged to the customer, simply because the customer ORDERED certain work done.*

If you organize your shop proper so that you can name a price in advance, *you have not gone far enough*. You cannot eliminate complaints and establish general confidence unless you are also in a position to check your prices and reduce them through added efficiency; settle complaints quickly and justly; handle your entire business, in fact, so that you will KNOW every step of every transaction with every customer *better than the customer knows it himself*.

CO-OPERATION IS ABSOLUTELY ESSENTIAL. Each department—even if the "department" consists of but one employee—must have a definite idea of that which you are striving to attain.

#### Individual Costs Must Be Known

Obviously, the first thing the repairman must know before he can establish a definite standard list of flat prices for his repair work is *how much it costs to perform EACH labor operation*. This must be determined by the actual performances of your own workmen under your own local conditions. *Another's price list, even were it available, should not be used for the reason that the costs of doing business vary in different establishments according to local conditions of*

### Make Money in 1919

### Make More in 1920

labor, material, building facilities and other things.

Many concerns engaged in the repairing of automobiles have been furnishing estimates, when required, based upon the figures given by some technical man in their employ. Such estimates are, at best, guesswork since it is *impossible for any man, no matter how technical, to tell in a more or less off-hand manner what it will cost to repair an individual car*. If the work "happens" to go smoothly so that the invoice is within the estimate, the customer is not dissatisfied, perhaps. On the other hand, if a figure is once given to the customer he will not pay a larger amount with good grace.

There is but ONE method of arriving at the exact cost of performing each labor operation on an automobile. This I call the *Operation and Group* plan. It can be worked out on any make of automobile and records must be faithfully kept, covering several weeks or months, according to the volume of business done and, consequently, the rapidity with which averages can be collected.

If a shop is in the general repairing business it should establish these records on the makes of cars it handles *most frequently*. The small volume of business which is secured on other makes can be handled on the per-hour basis as formerly without affecting the majority of its customers. Or such cars, when they occasionally come in for more than simple garage adjustments, can be estimated in advance by the shop manager or foreman who through his experience with the FLAT RATE on the other makes will, by that time, know his costs.

#### Operation and Group Plan

The *operation and group* plan gives a number to every single operation on an automobile which the shop is ever required to do as an objective job or as preliminary to an objective job.

By OBJECTIVE is meant the operations which the customer orders. In many cases, according to the way the car is constructed, the shops will never be called upon to do certain things as such. These operations will always be performed with some other operation as the objective.

For instance: You would never remove a door for the purpose of leaving it off entirely. You would remove it for the purpose of doing some other work such as taking out a dent, putting in a broken hinge, refinishing, or something else. Thus, you would NOT require an operation number for removing a door. You would give a number to the operation: "Take dent out of one door," and the price would include, of course, taking it off if necessary.

By eliminating such operations you will be surprised at the few numbers you will need, comparatively speaking. On

one make of car I started with over 600 operations. Nearly 400 of these were eliminated after seven months of record keeping *because they were never ordered*. Most repairmen will advance this as the chief objection to the FLAT RATE plan. They state that they handle so many cars and so many models that the operations required would run into the thousands and be impossible to keep. *As a matter of fact they do not KNOW this*. The contrary will, without doubt, prove the case. They have never kept records to prove this out and *they will be surprised at the results if they will do so*.

#### Many Operations Same on Different Cars

The shop handling general repair work or the service station repairing a make of car which has several models will find a great many operations which are the same on all the cars they handle.

For instance: They can clean and space spark plugs or burn carbon for the same price on any make of car or any model provided the car is a four-cylinder. Thus they could cover the spark plugs on ALL makes of cars with three operation numbers, one for a four, one for an eight and one for a twelve-cylinder car. This sort of doubling up, together with the operations which, because of the construction of the car they are not called upon to perform, will reduce the total number of individual operations very materially.

As a matter of fact the total number of operations will have to be much greater *during the period of keeping averages*, which is preliminary to the establishing of the flat rate prices, than they will be after the standard flat rate price list is actually in use. Bear this fact in mind, also: *Once the operations and groups are originally made up, it is NO MORE WORK TO KEEP A THOUSAND THAN IT IS TO KEEP ONE HUNDRED*.

In keeping the preliminary records, it is necessary to record EVERY operation, both preliminary and objective, for the reason that if you lose sight of the preliminary work necessary to be done, you will under-price the objective operation and then wonder why your prices are too low.

This is the common fault with "guesswork estimates." The workman does not realize that every job he undertakes requires just so much time to "get ready" and that he has to use a certain amount of shop material. I have seen several shop foremen with a record of 15 years in the business invariably price standard jobs, such as grinding valves, on a basis of the time it actually takes to grind the valves after all the preliminary disassembling has been done and not taking into account the time it takes to reassemble after the actual grinding.

For this reason you should take into account EVERY operation when you make up your operation numbers and groups. This is the way it is done:

The first step is to make up a list of all of the operations on the car starting with 0. It is not necessary to group

(Continued on page 26)



# When He Comes Back---

*Give  
Him  
a  
Job*



*Photo by Keystone View Co.*

**H**E gave the leg for you. YOU give HIM a job if he wants it. This picture was taken in the Vocational School for Wounded Soldiers in the Walter Reede Hospital, Washington, D. C., where wounded men are being fitted for self-sustaining occupations. If the Government teaches and the man learns, the rest is up to you who have the giving of the jobs. Why not write this hospital and state whether you have jobs for men, and what kind?



these operations in any certain way. At the first writing you will not think of all of them but others will come to you as you work out the group numbers. Such a tentative list is necessary in order to supply the groups later.

For the purpose of illustration, the groups are worked out in Form 1 for the first eight operations. Study Form 1 carefully. These groups involve numbers up to 22a as follows:

0—RADIATOR—Repair. (Outside work.)

1—RADIATOR—Drain and refill.

2—RADIATOR—Remove and put back.

3—FAN—Remove, install new fan spring, put back.

4—WATER PUMP—Jack one pump when necessary to remove pump from car.

5—WATER PUMPS—Same as No. 4 except both pumps.

6—HOSE CONNECTIONS—Remove and put back or install new. One only.

7—THERMOSTAT—Remove one only, test, put back.

8—WATER PUMP—Overhaul one pump only.

9—MOTOR—Clean.

10—MOTOR—Miscellaneous repair work unclassified by other numbers.

11—MOTOR CHAINS AND SPROCKETS—Install new.

12—SPARK PLUGS—Remove, clean, space, put back.

13—SPARK PLUGS—Test all plugs under pressure.

14—CARBON—Burn out.

15—CARBON—Scrape out.

16—GENERATOR—Remove, clean, put back.

17—CARBURETER—Remove, clean, put back.

18—VALVES—Check up and adjust valve tappets.

19—VALVES—Remove, polish, grind, clean, put back.

20—MOTOR PAN—Take off, clean, put back.

21—DIRT PAN—Take off, clean, put back.

22—WATER PUMP—Remove, clean, put back. One pump only.

22a—WATER PUMPS—Same as No. 22 for both pumps. Etc., etc., etc.

It will be noted that the above list follows no certain order, since its purpose is simply to give each operation a number in order that the groups may be worked out. The brief description of the operation should, however, follow the complete line of work as in the case of No. 19. This notes the entire procedure necessary to complete a valve grinding job as far as the valves are concerned and prevents losing sight of the fact that there are some things to do to the valves besides actually grinding them. This list may be made up on any kind of paper since it will not be used after the groups have been determined. Having completed this list to include all of the operations you can possibly think of, you are ready

for the second step, making up the groups or operations.

(NOTE—In these illustrations the operations are those on the Type 57 Cadillac car. Labor is figured at the rate of \$1 per hour in order to make the tables the more easily checked. The time for operations and groups is approximated and should NOT be accepted as a standard.)

#### How to Make Up a Table of Operations and Groups

Take a foolscap length sheet of paper and rule off nine columns. (See Form No. 1.) These columns are, in order, as follows: First, operation number; second, group numbers; third, description of the operation; fourth, estimated time required for the operation; fifth, charge for the operation on the per-hour basis at your prevailing rates; sixth, total time required for the group (complete job); seventh, total charge for the

### STUDY THIS STORY

as you studied when  
you were in school.

*Keep Your Eye on the Forms*

group; eighth, estimated cost of shop material (not parts) required; ninth, total charge to customer.

#### The Operation Number

The method of establishing these numbers is explained on this page. This should be done by the most careful technical man you have in your employ. Give him a quiet place to work, where he will not be interrupted or disturbed, so that he can follow out, in his mind's eye, each step in detail. He should set down the operations in logical sequence from the front to the back of the car, giving each one a number, starting at No. 1.

#### The Group Numbers

In making up the groups, technical knowledge is absolutely necessary because the man who does it must be able to follow out every part of the work as it would have to be performed. Often, as he progresses, operations will occur to him which he had overlooked in the first list. He will find, also, that the group numbers arrange themselves, provided he is careful to think out each step. This is the hardest task in connection with the entire plan, although failure to make an accurate list is not fatal unless you intend to start immediately to give estimates based upon your groups. (This estimate plan will be discussed later.)

Little need be said about the group numbers. As the sample sheet—Form 1—shows, they comprise all of the individual operations necessary to be performed in

order to complete the work the customer orders. No major operation should be overlooked.

#### Description of Operations

Right here you must begin to have in mind the SELLING of the repair work. Set down everything which will be of advantage in selling the work. For instance, under operation No. 2 in Form 1 you will note a memo to the effect that one or more new hose connections are usually required when a radiator is removed. This is a fact which after a moment's thought no repairman will dispute. Yet how many ever think to explain to the customer, when he orders work requiring the removal of a radiator, that his bill will, no doubt, include a new hose connection?

#### Salesmanship Needed to Handle Customers

If it IS explained when the work is ordered, it will probably SAVE an argument when the bill is presented. And it can be explained just as easily as not if you do two things: First, place a SALESMAN at the point of contact between your repairshop and your customer, and, second, give him an exact reference list of such things. The man who meets the customer is the most important you have in your organization and it requires SALESMANSHIP if you are to accept the new order of things. If this salesmanship can be combined with technical knowledge, so much the better. But if you cannot find a shop foreman who is also a salesman and knows the psychology of selling, then ADD a salesman and give him technical assistance when he needs it to "shoot trouble." He will MORE than pay for himself every week.

An exact description of each operation is very important to the entire plan. Upon its completeness depends not only the ability of the service manager to sell the work to the customer, but it establishes the policy of the house as to the amount of work necessary to be done in order to turn out a WORKMANSHIP job. It also furnishes a chart under which the workmen will proceed later.

By a "workmanship" job is meant one which will give satisfaction. There are always two ways of doing a thing—a right and a wrong. If experience teaches you that it is useless to attempt to perform one operation without also doing another along with it in order to give the customer satisfaction, then you had better sell him both jobs or none.

### NEXT WEEK

This story takes up combinations of operations and shows in detail how the work is done.

*Study the Forms!*



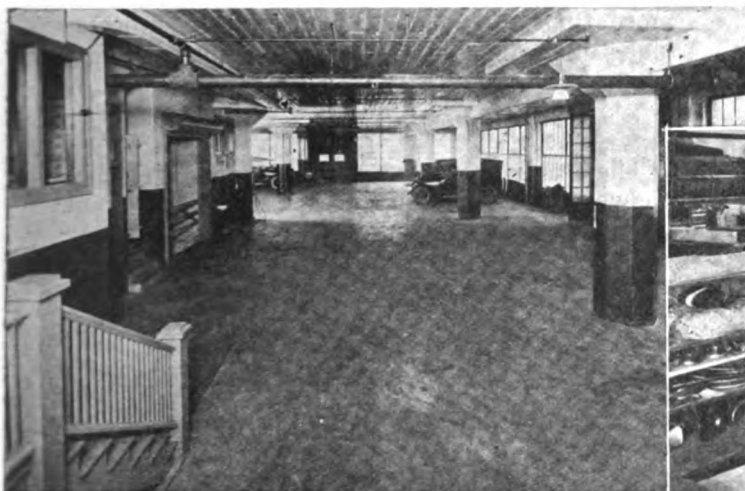
# The Newest in Shop Plans

*Pictures Taken in the New Home of the Greenlease Motor Car Co., Kansas City*

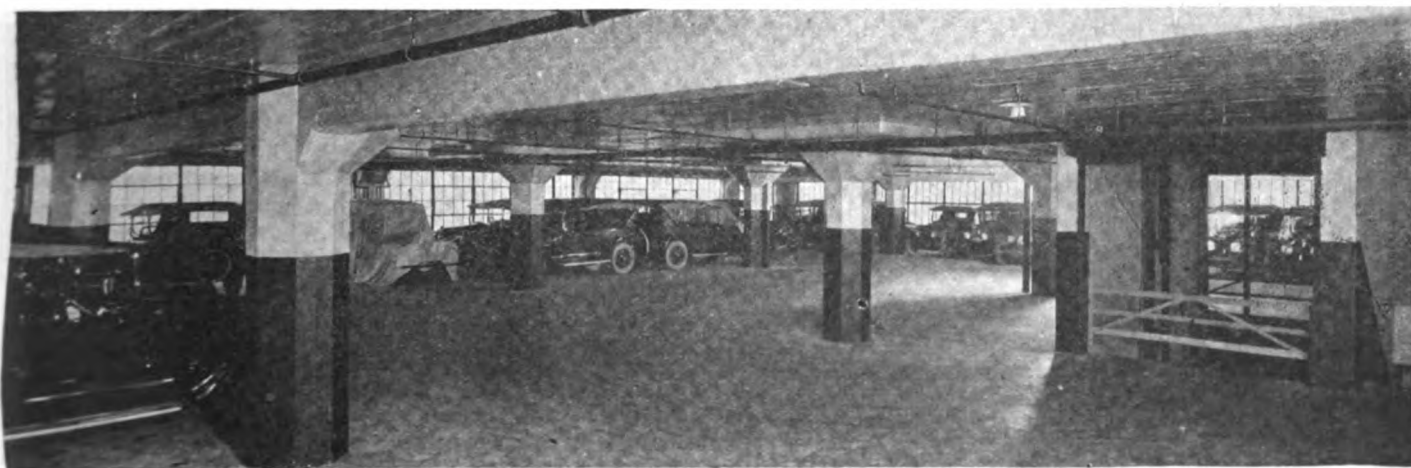


*This shop is entirely surrounded by windows. Light is the cheapest of efficiency's aides*

*This \$50,000 stock of 5000 different kinds of parts is arranged under a perpetual inventory which makes it possible to take an inventory any hour of the 24. Cabinets 1 and 2 contain 1343 different parts*



*Above is the entrance hall to the service station. The elevator, at the left part way down the side, is directly opposite the entrance to the building. Quick service is handled here, never cluttering the main shop*



*Cars that are to go out in a short time are put on the second floor in this storage room, where they are accessible without lost time and costly delays. There is plenty of room for driving on the floor and cars are moved expeditiously*



YOU MUST

# Sell Accessories the New Way

*And the New Name Is Automotive Equipment—  
It Is Extra Dollars Easily Picked Up at Small Cost—  
It Is Just One of Those Ways You Can*

**MAKE MONEY IN 1919**

□

□

**MAKE MORE IN 1920**

**T**HERE are thousands of dealers and garagemen who can add a large amount to their volume of business if they will seriously take up the sale of automotive equipment.

It is a neglected department of the automotive business, but it yields a wonderful return when attention is paid to it.

The NEW dealer and garageman will cash in on this department and add a big amount to his business without any proportionate increase in his selling costs. The most that is required is initiative and the determination to SELL the merchandise—NOT wait for folks to come and ASK for it.

There are 6,000,000 cars in America now. If the average car owner buys \$50 worth of equipment and supplies—not counting gasoline and tires—it amounts to \$300,000,000 worth of automotive equipment business in 1919. This is only that business which comes to the dealer without the asking.

By INTENSIVE effort this amount can be doubled, or more. No matter what the total HAS BEEN, it can be doubled if the dealers go after the business. But it requires, as stated on page 8, a NEW MIND. The dealer must learn to think of more than one department of his business. He must cease to think that he is ONLY a car dealer, ONLY a garageman, or ONLY a repairman. He must think he is a BUSINESS MAN, and must draw revenue from MORE THAN ONE DEPARTMENT.

Therefore, organize an automotive equipment business and make more money.

## *The New Stockroom*

The NEW automotive equipment stockroom is made with proper bins and a proper inventory system. See the MOTOR WORLD perpetual inventory card on page 95, if you have no other card to use. The stock is kept up to date. It

is never possible for a customer to ask for something that is NOT in stock, unless it is some article that the dealer's records show is not easily salable and a quick seller.

There is no old, dead stock in this stockroom. The dealer buys wisely. If a jobber's salesman shows a disposition to load the dealer up with more than the dealer should buy, the dealer looks no longer with favor on that jobbing house.

## *The New Store*

The dealer operates a store, or something that answers the same purpose. He has a front window in which he puts up a good display and CHANGES IT EVERY WEEK or oftener.

He has a little store, or a big one, with shelving, cabinets and show cases, just like the best drug store in town.

Beside the runway is the most important part of his equipment. This is a cabinet with a display—CHANGED EVERY WEEK—which hits the customer in the eye every time he drives into the garage or service station. One such showcase sold \$12,000 worth of goods one year for a big motor-car dealer.

The stock, the windows, the showcases, and everything connected with the outfit are neat and CLEAN.

## *The New Salesman*

Instead of spending his time fussing around the shop, the garageman will devote his time to getting more business with less work. If he HAS to spend his time in the shop he will have a young man—or woman—whose duty it is to say "Hello" to every one who comes into the place or who buys gasoline, and endeavor to sell something that the customer DID NOT ASK FOR.

If a man asks for 5 gal. of gasoline, this salesman will try to sell waste, oil, tubes, tire chalk, pliers, or something that he thinks the customer



may buy. This salesman—even though a boy, and a bright boy—can earn more for the garageman or dealer than the latter can earn in the shop.

**EVERY MAN WHO COMES INTO THE PLACE WILL BE GREETED.** Under the OLD plan, used unsuccessfully for so long by so many garages, customers wandered around unattended, and finally forced the dealer or garageman to give them what they needed. Under the NEW plan the dealer or garageman, or some employee, is on the job to greet the customer

and **SELL HIM SOMETHING HE DIDN'T COME AFTER.**

Any dealer or garageman who will operate along these lines can add to his volume. Many dealers think they are too BIG to bother with an automotive equipment department. The BIG MEN of this industry are those who get revenue from many departments, and NOT ONE ALONE. The dealer who will add an automotive equipment department and run it right can

**MAKE MONEY IN 1919**



**MAKE MORE IN 1920**

## New Ways for MAKING Money in Selling Automotive Equipment

*[Gathered from Leaders in Their Line]*

### Join Out-of-Town Clubs

The first thing a garage owner wants to do after putting in an accessory department, especially if the garage is a large one, is to join out-of-town automobile clubs having a large membership. This is quite apt to insure him a considerable tourist business. It is so in our case. It isn't necessary to join local automobile clubs. The thing is to join the big clubs a long distance away, but not too far off for week-end tours. I belong to one in New York and another in Boston, and they bring us in a lot of business. We run our large accessory department for our regular customers and the tourist trade. It amounts to 20 per cent of our business. Our big accessory department show window helps as advertising and a reminder.—T. A. Atkins, Jr., treasurer Pennsylvania Garage and Service Co., Philadelphia.

### Blotters for Ads

J. L. McMahon, proprietor of the Westport Garage Co., Kansas City, uses blotters for advertising—leaving a few at drug, hardware and other stores and in offices in the suburban district he serves, scattering some downtown, putting two or three in each car that enters his place, and into cars on the streets. Blotters are usually welcome in the home, since dad always forgets to

bring some home from the office, but remembers to bring those home that the garageman hands him.

### Here's a Good One

J. L. McMahon, proprietor of the Westport Garage Co., Kansas City, pays \$30 a month for a slide run



stars at the garage. Children come to the garage for these pictures, on the backs of which are the advertisements of the garage. The children take the pictures home, the grown folks see the advertisements—and also hear what the kids say about the garage.

### Shows the Goods

In taking up the automotive equipment line we never made a definite announcement of it. We merely established show cases in the plant where car owners passed and let them see what we had, everything displayed being plainly marked in price. Our announcement was incidental to seasonal letters to our car owners.—Frank R. Tate, president, Tate-Gillham Motor Car Co., St. Louis, Mo.

### Sell Old Goods First

Put the new goods at the bottom of the bin. This means let the stock on hand be moving always to the front, putting the new goods behind. Then you never will have any accumulation of old goods. Everything always is fresh. In my experience in various kinds of business I have made this an iron rule. I never have had, and I never will have, old stock. Mine always is new because I sell that first which I have had the longest.—L. Le Cocq, Star Automobile Co., Pella, Iowa, Ford and Fordson.

*[Turn the Page]*

Phone: Home South 2626  
Bell South 3744

**"A Different Service You Will Appreciate"**

**WESTPORT GARAGE CO.**  
J. L. McMAHON  
Automobile Tires and  
Accessories of all Kinds  
First Class Repairing Special Radiator Work  
4043-S-7 Broadway Boulevard, KANSAS CITY, MO

PHOTO-PLAYS Warwick Theatre MAIN ST. AT 12th AVENUE

at each performance in the moving picture theater of his neighborhood, a majority of the patrons of the theater being motor car owners. The slide says anybody can get pictures of favorite motion picture



### **No Wonder!**

"Car owners all have friends downtown they buy equipment from. We can't get the price out here," said a garageman whose stock of equipment amounted to about \$50, all displayed in a window, but in a room closed off from the garage—inaccessible to the customer.

### **Adding to the Stock**

We sell tires, tubes, fan belts, horns, bulbs, lenses and other equipment—and have no display case downstairs—have to suggest these items, or wait till customers of storage facilities ask for them. We will soon move the \$1,000 stock downstairs and add to it.—Santa Fe Garage, Kansas City.

### **Talk to Customers**

I never miss a moment or a chance to talk with owners getting gasoline at my filling station—pointing out equipment I can supply, and especially mentioning my facilities for repairs. My repair and equipment business has doubled each year since I started three years ago—a great deal of the increase coming from strangers who stopped for gas and returned for something else.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Try This, Boys!**

For every dollar's worth of gas I sell I sell seventy-five cents' worth of automotive equipment, on the average. While filling the tank I look over the car, and make suggestions as to what the owner might buy.—J. L. McMahon, Westport Garage Co., Kansas City.

### **\$200 to One Man**

I have sold as much as \$200 worth of equipment to a car owner who happened to stop at my place for gasoline. I casually make suggestions on equipment that I can supply, mentioning something I see they need—and they come back in a week, or a month, and buy this item or something else.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Goods on Main Floor**

We expect a big tourist business this summer and are moving our equipment stock downstairs, where transients can see it and buy.—Santa Fe Trail Garage, Kansas City.

### **Don't Be Secretive**

It's easier for motor car owners to buy automotive equipment of the suburban garage than downtown—

## **Sell Supplies**

**Make Money in 1919**

**Make More in 1920**

*More sales ideas on pages 29-67*

and the trade can be got if the garageman will let the motor car owners of his territory know that he handles equipment.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Your Reconstruction Story**

Motor car owners remember that the garageman didn't have the accessories they wanted during the war. The garageman may be able to get these now—but the owners won't know it unless he tells them. The garageman himself knows that he can get supplies now from jobbers who turned him down six months ago. The garageman may get his needs filled now by the jobber who used to take good care of him—and this jobber doubtless is not neglecting to call on the garageman and tell him, "We can sell you anything you want." The garageman ought to apply this bit of experience to himself, and make an effort to let all his customers know that he is able to meet all their demands.

### **Front Window Display**

We have a district of wealthy families to serve, who have not been buying automotive equipment at this garage. We are installing a showcase in the front window, and will build up a large stock of such equipment.—W. S. Allard, Woodlea Garage, Kansas City.

### **On the Ground Floor**

An equipment department should always be on the ground floor where every one coming in can see it. The second story is no place for it. You never heard of a man moving his equipment department from an upper story to the first and then moving back again. Trade for him means from 20 to 40 per cent more on the ground floor where people can see what he has. A buyer who comes in and has an opportunity of looking around is sure to see some little thing he needs and—that is so much extra he buys. If he does not see it here he some time or other does see it elsewhere, and as the other place seems convenient to him we lose a customer. If he buys small things of us he

will buy larger things when he needs them. Equipment goods should always be arranged so that they can be easily seen. That is one of the best salesmen the department can have—goods attractively arranged in plain sight.

### **Cold Feet?**

In nearby towns in which there are no equipment stores it is absolutely necessary that the automobile dealer should have one. But we have never put in such a department because no one can make money out of it unless he engages a special man to take entire charge of the business. We have not done so because there are equipment stores handy.—K. C.

### **Must Show the Goods**

An absolute essential to success in an equipment department is a place to show your goods. As I cannot have a window I am fitting up a showcase in which to make a display. It will attract attention and purchasers, seeing something they wish but had not thought about, will buy. It will increase my business 20 per cent.—F. A. Hulshizer, parts department manager, Reo, Kansas City.

### **War Ban Now Lifted**

We are finding it easier now to get the highest quality of steel material which was impossible during the war and are pushing this class of goods.—F. A. Hulshizer, parts department manager, Reo, Kansas City.

### **Keep Complete Stock**

I buy a complete stock and then keep it up. If an order comes for some article which I do not have in stock I order one sent direct to the customer and a supply for my department.—F. A. Hulshizer, parts department manager, Reo, Kansas City.

### **Always Get the Cash**

Make your accessory business just as nearly cash as it is possible for you to do. Business can be done cheaper on a cash basis. The dealer actually can afford to lose some business by insisting upon cash. In the long run he actually is ahead, since the lost business usually will amount to less than the amount which will be lost through bad accounts when doing a credit business. It isn't the volume of business you do so much as it is the getting the pay for what you do sell.—E. F. Raver, manager accessory department, Jefferson Auto Co., Jefferson, Ia., Ford and Fordson.



# A Fool There Was



*For whose benefit are you running your business?*



You Must

# Sell Trucks the New Way

*There Are Certain Plans, Used by Successful Truck Dealers  
That Will Make YOU, Too, Successful and Help You*

**Make Money in 1919**

**Make More in 1920**

**N**EW THOUGHTS, New Departmentization and an Entirely New System are essential to successful truck merchandising. With organization on a right basis every passenger car dealer can become a successful truck merchant.

He must, however, approach the business with the realization that he is going to do things he has never done before. He also is going to make profits that he never made before.

As a starter, he must determine to departmentize. He must make this a separate part of his business, divorce it from passenger cars, the shop and everything else, and determine to concentrate on the sale of trucks. If he will do this he can build a profit-paying truck business.

In the big cities there is a field for truck distributors.

In the big cities there also is a field for exclusively truck dealers.

And even in some small cities the exclusively truck dealer may find it profitable to operate.

## The Small Town Dealer

Let us assume that a passenger car dealer in a town of small size, who has been handling passenger cars only, wishes to go into the truck business. A few dealers have met misfortune because they started in the wrong direction at this fork in the road. They tried to throw the trucks right in with the passenger cars, and there's where they made their mistake.

**TRUCKS MUST NOT BE HANDLED IN THE SAME DEPARTMENT WITH PASSENGER CARS** even though the

two vehicles stand side by side in the same salesroom.

But, the dealer says, how am I going to establish a department when all there is to my business, so far as selling is concerned, is myself and a salesman. In that case the salesman preferably is allowed to concentrate on passenger cars. He virtually becomes the **PASSENGER CAR SALES MANAGER**. The proprietor becomes the truck sales department. He is manager, salesman and everything else.

The proprietor is selected for this work because he is presumed to be better able to think of this **NEW THING**. He is presumed to have a type of mind that is capable of diversification, else he would not be the proprietor.

## Concentrate on Truck Sales

The proprietor then goes at truck sales. If he should be able to devote only half time to it then he would take what available time he had, at least half a day, and concentrate on truck sales. He would list business houses, farmers and other likely prospects, have sales letters and literature sent to them and then make calls on them. He would keep this up and get a few trucks in operation in his territory. As a few trucks began to operate they would advertise his line and he would then work for other sales.

As time went on this proprietor-salesman should be able to engage a truck salesman to assist him. Good salesmen can be made from former railroad employees, such as station agents, shipping clerks and others used to handling merchandise, provided they have

the other qualifications necessary for selling.

In towns of average size, where the dealer has several salesmen engaged on passenger car work, the field is big enough for a truck salesman at the start, and over this man the dealer, who becomes a **GENERAL MANAGER** by this move, keeps a watchful eye and aids him in developing the truck field.

## The Big-Town Dealer

In the big town the dealer operates as does the average-town man, but he may also, if he sees fit, set up a separate place of business. Trucks may also be handled in the same salesroom with passenger cars, provided the human part of the organization is kept separate. Passenger cars and trucks can be handled together but **NOT** by the same sales organization.

## A Most Important Point

Most important among the points to be considered is that the trucks be handled separately **ON THE BOOKS IN THE ACCOUNTING DEPARTMENT**. Even a small dealer can do this. In fact, he **MUST** do it if he is to be successful. In the Motor World Simplified System of Accounting, described on page 92, departmentization is explained in detail. Therefore:

1—Approach the truck business with an open mind.

2—Departmentize.

3—Make money in 1919, make more in 1920.

*Read the Truck Sales Ideas on Pages 33, 34 and 71  
and, also, go back and read again what is on Page 9.*



# New Ways of Truck Leaders

[Gathered from the field by Motor World Representatives]

## Must Know Selling First

A man who has demonstrated that he can sell pins, or corsets, or old bottles, or anything else, stands as good a show to be engaged by us as a man who understands the truck business from end to end.—M. A. O'Mara, White Co., Kansas City.

## Used Trucks Sell New Ones

The used-truck department is as legitimate as the new and should be conducted in the same business-like manner. By making it a legitimate business run on legitimate lines we last year handled 125 trucks, and old customers returned to us for a second truck.—A. S. Austin, Republic trucks, Kansas City.

## Makes Used Trucks Pay

When I put in a used-truck department I absolutely divorced it from the new truck department without alimony. It had to support itself. It has not only done that but has also made a profit.—A. S. Austin, Republic trucks, Kansas City.

## Buyer Has to Sell 'Em

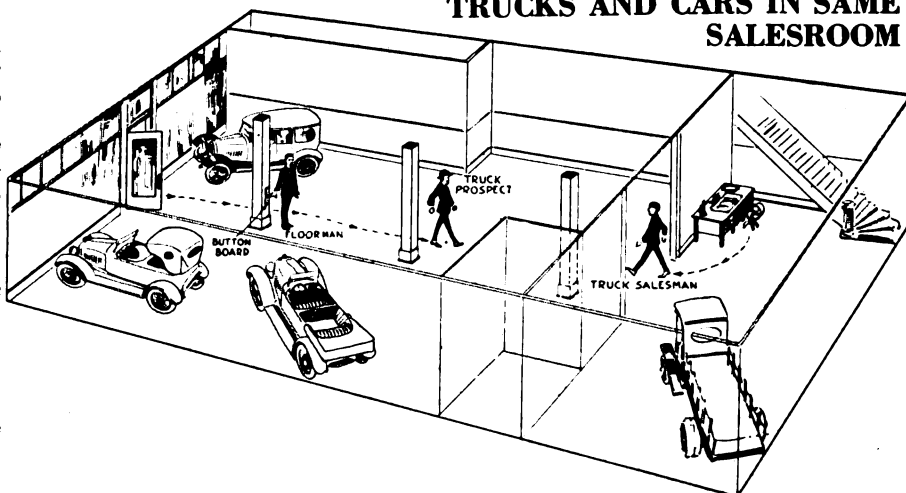
I have one man in charge of the used-truck department, who makes all appraisals and orders all re-

pairs and makes the sales. The same man who buys the truck should always make the sale.—A. S. Austin, Republic trucks, Kansas City, Mo.

## Get the Price

The used truck business must be run on the principle that the dealer is morally bound to sell a truck for just what it is WORTH, no more

## TRUCKS AND CARS IN SAME SALESROOM



Trucks and passenger cars are sold at the same location by Henry Paulman, the Pierce-Arrow man in Chicago. There are wide doors between the car salesroom at the front and the truck salesroom at the rear, which makes two and yet one room. If a prospect asks about trucks he is directed to the other end of the salesroom, and the floorman, who is always prompt, courteous and AT THE DOOR, presses a button behind a post and summons a truck man, who meets the prospect before he has time to wander around and get lost. Similarly, used car men and others are summoned by this button system. The floorman never presses the button until the prospect has gone far enough so that he can't notice the move, which is made quietly and unobtrusively.

and no less. If he sells for more he injures the buyer, and if for less he injures the firm. This principle enabled me to sell \$45,000 worth of used trucks last year, and every buyer is in a humor to come back to us when he wants another truck.—S. Albert, General Motors Truck Co., Kansas City.

## Know Your Business

To be successful in the used truck business the buyer must be able to appraise the exact value of the car.—S. Albert, General Motors Truck Co., Kansas City.

## Learn Prospect's Business

We get the facts about a man's business, what it is, how he handles it, and just where a truck would help him. Then we bring our data to bear to convince him that he can conduct his business easier, better and more economically with a truck.—M. A. O'Mara, The White Co., Kansas City.

## Owners Check Monthly

We assure our customers that if a truck is properly cared for, the stationary parts tight and the working parts properly adjusted and lubricated, the truck not se-

[Turn the page]

## It's the Money You Spend That Makes You Rich

When a farmer tells me he can't see why he should have a farm lighting plant because it costs too much money, etc., I go at him like this:

"You'd like to live in town if you could, wouldn't you?"

"Sure."

"Why?"

"Well, I'd have more comforts, light, heat, water, better schools for the children, churches and lots of things."

"Yes, and you'd have to give up a whole lot of things you have now. Now, don't you see that with a lighting plant on your farm you can have all these things—light, water, comfort, better living conditions—and, with your automobile, you still can keep in touch with anything you want in town? And you can have a whole lot of things on the farm besides that you can't very well have in town—chickens, a pig, a cow, a big vegetable garden—oh, lots of things."

"And as to the cost, say, don't you know it's not the money you have in the bank that gives you rank as a rich man, but it's the money you spend that gives you standing. What on earth is the use of having money if you don't spend some of it making yourself and your family comfortable and happy and making life worth living for you all? Put in a lighting plant and show folks you really are well enough off to live right.—E. J. Miles & Co., Newton, Iowa, Delco.



riously over-loaded or over-speeded, the repair bills should be nothing. Our service department provides facilities for the owner to know each month how carefully his truck is being handled.—A. S. Austin, Republic Truck Co., Kansas City.

### About Salesmen

We get better results from a salesman who does not know anything about any other truck than from the one who does. We want him to understand ours thoroughly, but do not care about him knowing any other.—M. A. O'Mara, White Co., Kansas City.

### Studies Salesmen

In engaging a salesman I try to gauge his initiative, resourcefulness and ability to explain the inherent value of our own make.—M. A. O'Mara, White Co., Kansas City.

### Be a Salesman First

We select our salesmen not for experience in truck manufacture or handling, but for their record in selling—no matter what. We can train a good seller to handle our goods. We cannot make him a good salesman if he does not have the qualifications in him.—M. A. O'Mara, White Co., Kansas City.

### Repeat Commissions

A salesman gets his commission on a repeat order, no matter if the man purchases direct from the house. This keeps him vigilant.—A. S. Austin, Republic trucks, Kansas City.

### Know How to Analyze

We select our salesmen according to their ability to figure out the value of a truck for a certain kind of business. If he can conclusively show a man that his own individual business would be increased by the use of a truck, we can sell it to him.—A. S. Austin, Republic Trucks, Kansas City.

### Wants Over-30 Boys

In choosing a salesman I always look for a man over thirty. A truck salesman must be a man with business experience—what kind of business I do not care.—A. S. Austin, Republic Trucks, Kansas City.

### Sell Where They Fit

We train our salesman thoroughly never to sell except where he can give the best and most economical results to the buyer. That

## SELL TRUCKS

**Make Money in 1919  
Make More in 1920**

*More truck ideas on pages 33  
and 71*

brings other prospects and also brings the same man back again when he wants something else in our lines.—M. A. O'Mara, White Co., Kansas City.

### Repeat Business the Gold Mine

Repeat orders naturally follow legitimate, conscientious selling. Eighty per cent of our business has been repeat orders.—M. A. O'Mara, The White Co., Kansas City.

### If He Learns—

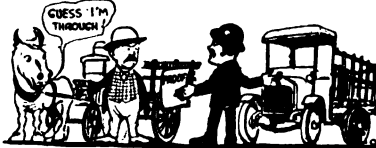
When we start in to train a green salesman we give him a mass of information and data and



see if he learns it. If he does we have hopes of him. If he does not, we let him go.—A. S. Austin, Republic Trucks, Kansas City.

### Hammered a Year

An agent should keep hammering away until his prospect sees his need of a truck. It took me a year to convince a man with a thousand head of horses that he needed trucks instead of wagons. At last, just to get rid of me, he said, he ordered two of the cheaper grades. In three months he was



at work de horsing his plant and installing trucks entirely.—M. A. O'Mara, the White Co., Kansas City.

### No Chance!

When a man tells me he is waiting for a decline in prices I show him that the price is dependent upon the cost of labor, and that labor is NOT going down.—A. S. Austin, Republic Trucks, Kansas City.

### Shows Few Figures

When a prospect for a motor truck is found, we simply size up his hauling problems and try to sell him a truck which is best suited to his individual needs. It is only when a man is not in the market for a truck that we have to show the comparative cost of the operation of motor trucks as against horse-drawn haulage.—Edward T. Ash, the Aull-Ash Co., Columbus, Ohio.

### Departmentizes in Letters

As soon as we added trucks to our line we put them in charge of a truck man, who conducts truck affairs with the dealers. If a dealer mixes cars and trucks in his correspondence, we separate the subjects in the outgoing mail.—Joseph A. Schlect, president Mound City Automobile Co., St. Louis.

### New Prospect List

A car selling prospect list is of no value to the truck department, although the reputation of the house is. We began our truck department by listing the probable users and circularizing them, enclosing return cards. By investigation we eliminated some on this list, and by energetic work we soon had a good working list.—John L. Fay, truck sales manager, Weber Implement & Auto Co., St. Louis.

### See the Farm First

A man who knows farmers and farm conditions will not sell a truck to a farmer until he has visited that farm to determine the size of the truck the farmer needs.—William A. Flamm, implement manager, Weber Auto & Implement Co., St. Louis, Mo.

### Used Trucks Build Trade

Every man who purchases a used truck is a prospect for a new one, and must be treated fairly if you wish him to return.—S. Albert, General Motor Truck Co., Kansas City.

### Study Repeat Business

Each salesman has his list of truck owners and calls on them regularly to give advice and assistance. That means repeat orders.—A. S. Austin, Republic Trucks, Kansas City.

### Show Him He Needs One

The only objection a man makes to buying a truck is that he does not need it. It is my business to show him that he does, and I do.—A. S. Austin, Republic Trucks, Kansas City.



# Make Our Trade's Business Letters the Neatest in the World

**MICHIGAN OLDSMOBILE COMPANY**  
432 WOODWARD AVENUE CORNER SPROAT  
DETROIT, MICHIGAN

*Packard*  
DISTRIBUTORS OLDSMOBILE-CORVETTE

October 10, 1917.

Mr. A. Prospect,  
588 Main Street,  
Callamassa, N. J.

Dear Sir:

Here is a peculiar thing you may have noticed about motor cars: There is one class of car which is very good, but doesn't look remarkably well. There are quite a few of this kind. When a man says he owns one his friend says: "That's a very good car." Rather non-committal remark, isn't it?

Another class gets a comment like this: "I wish I could afford one like that."

The Columbia is in neither class because it is new and not well known yet--BUT IT WILL BE.

It is being shown at our new salesroom at Ninth and Main streets. Come in and see it.

Very truly yours,  
*A. Live Dealer*

ALD:c

## You Should Do This

**T**HERE are certain things you must do if you would have your letters not be a waste of money. MOTOR WORLD sees many letters from dealers that clearly indicate carelessness. Perhaps the girl is to blame. If she is, just call her attention to this page and ask her to see what a neat letter writer she can become.

Remember this: There are various ways of writing letters, any of which may be perfectly correct, but it is advisable to find some ONE good way and stick to it. That is what MOTOR WORLD has had to do in its own business, and so we present to you what we consider the BEST way, and suggest that you follow the directions shown on the sheet above.

The letter should have even margins.

The letter should occupy the center of the page; that is, it should not be too wide if it is short. If you are writing a letter of only a few words pull in the length of your lines and make the letter a rather neat little square block.

The directions for writing the letter are plainly indicated on the above sheet. Follow this style and you will have nice letters. Get into the habit of doing it this way and you will always have good results.

The letter that leaves your office represents you just the same as does a salesman. If the letter is a bum piece of work it is the same as sending out a bum salesman. Why have a BUM when your letter can just as well be a gentleman?



# YOU MUST

# Sell Tractors in the New Way

## The Tractor Is an Old Device But Is Coming Into New Prominence and With It Are New Ways of Selling Which You Must Use to

**MAKE MONEY IN 1919**

□

□

□

**MAKE MORE IN 1920**

**W**HAT is said on this page applies to new tractor dealers and old. Dealers who have been handling tractors in the old way for years must adopt the new way if they would be successful and make money in this line of selling in the future.

The first step is for the dealer to sell himself on the power farming idea. He must realize that he is taking up with something that is different from what he has done before—provided he has not sold tractors at all. He must make a study of farming with power machinery; he must learn farming and farm conditions; he must familiarize himself with the machine and the field into which he is going, and must get all set mentally before he starts.

### **Lack of Preparation Costly**

Rushing unprepared into tractors—or trucks—is a sure way to make the initial period more costly than is necessary.

Then, get a good tractor. There are good tractors and poor tractors. It is foolish to hook up with a tractor that is of wrong design. The better tractors—and the ones that will stay with us—are those that are adopting better engineering design than characterizes the older types. The new tractors have enclosed friction parts, weigh not over 4500 or 5000 pounds, have drop-forged or rolled-steel gears, accessible parts, are priced at \$1,500 to \$2,000 for a 3-plow machine, have anti-friction

bearings, are suitable to local conditions and applied automotive knowledge.

After you have chosen a GOOD tractor make sure you get a discount that will leave you some NET profit. Dealers should get 20 or 25 and distributors about 33.

Then decide to sell the implements that go with the tractor, because this is one of the combinations that surely will be with us, and in which there is added profit.

### **Educate the Farmer**

You must then set out to be an educator of the farmer. You must teach him how to use the machinery. This teaching will repay you many times over in later months. Teach him to house the tractor and implements. Make a business man out of him. Don't let him treat the tractor the way he used to treat his farm implements, and the way he still treats them, leaving them to depreciate in the fence corners.

Give prompt service. Fit up a service truck, car or motorcycle and arrange to get quickly to the farmer when he needs service. He will seldom ask for service except when he needs it in a hurry. Prepare to GET THERE IN A HURRY and then MAKE HIM PAY FOR IT.

Start on a SOLD SERVICE basis and get miles and miles away from that old FREE service system that has killed so many passenger car dealers. If you can't get PAY for service there is something wrong

and you are destined to encounter trouble.

Departmentize. Establish a separate tractor department in both your accounting and operation. Carry it separately on your books. You are NOT in the tractor business until you have established a separate department.

Departmentize in your selling. You may let the tractors and implements stand in the salesroom with your cars and trucks, but you must NOT have them sold by the passenger car men. You must have special tractor salesmen. If your organization is not big enough for this, you must take over the tractor sales yourself until it gets to a point where you can have special men. In case your finances permit it, you would do well to establish a department of reasonable size at once and go at the job intensively.

### **Lay Groundwork First**

But first lay the ground-work. Understand what you are doing. Understand that the work is somewhat different, although just as profitable as compared with car selling. Then study the tractor sales and service ideas of successful tractor dealers on pages 37, 38, 44, 45 and 46 in this issue.

Get set right, get organized right, work right and you will find yourself hooked up with one of the greatest trades in the world.

Read page 9 again.



# How Successful Tractor Dealers Are Making Money in 1919 and Preparing to Make More in 1920

*[Ideas gathered from the field by Motor World staff men]*

## House-to-House Work

During the last winter I have made what is literally a house-to-house canvass of my territory talking tractors. Results? To-day I have a list of over 50 live prospects, most of whom I shall surely sell during the coming season just as sure as the season comes around. It has been hard and tedious work, but it has paid.—F. H. Lang, tractor department, Dunlap Motor Co., Ames, Ia., Ford and Fordson.

## Good Service Commands a Price

The right kind of service, given promptly and satisfactorily, commands a price which the farmer is entirely willing to pay. The farmer never kicks at the price when the job is done right and on time. This applies to service on motor cars, motor trucks and tractors.—Earle Black, Pella Motor Co., Pella, Ia., Overland and Moline-Universal, Republic trucks.

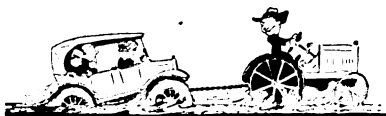
## Tune Up for Demonstrations

We don't believe in using a new car or a new tractor for demonstration purposes. As a matter of fact we never give a man a demonstration in a new car unless the sale already has been made. It's the same with tractors. Here's what we do. We get a farmer near town to leave a field unplowed for us, agreeing with him that we ourselves will have it plowed whenever he wants to plant it. Then we put our demonstration tractor in that field and leave it there.

Whenever a prospective customer wants a demonstration we take him out there and let him plow a few rounds. If he is satisfied we take his order and deliver a new tractor to him. This saves running all over creation to make farm demonstrations and we always have a machine which is tuned up and in running order to demonstrate.—M. S. Brunner, Motor Sales Co., Newton, Ia., Dodge, Hudson, Essex and Moline-Universal.

## Pulls Cars Out of Mud

The Rude Auto Co., Perry, Ia., has a service Fordson tractor. It has been kept busy pulling motor cars out of the mud during the last month. When a customer telephones in that he is stuck in the mud the little Fordson goes after him and snakes him out in a hurry. The tractor can get through where



a car can't and a tractor hauling a disabled motor car to the Rude garage has ceased to be a novel sight on the streets of Perry. F. H. Martin & Co., Jefferson, Ia., has been doing the same thing with an E-B tractor.

## Never Cut Prices

Never cut your price. Lose a sale rather than cut. That's what we do. Cutting a price is the worst possible thing a dealer can do. Cutting reflects on any line you handle—it opens the way to the impression that there is a "nigger in the wood pile" somewhere. Besides, it lowers you as a salesman in the estimation of the community and makes it impossible for you to inspire that degree of confidence in your ability and integrity as a business man which the community must entertain for you if you are to be a success.—Ed. Van Gorp, Pella Motor Co., Pella, Ia., Overland, Republic trucks and Moline-Universal.

## Service Not Everything

Important as service is, don't make it the only thing you give. The man who buys a motor car or a tractor expects to get service when he buys. He pays for a certain amount of that in the price he pays. What is almost as important, if not equally important, is the keenness of the interest you manifest personally in your customer and the amount of attention you give him after the sale has been made.

—Ed. Van Gorp, Pella Motor Co., Pella, Ia., Overland, Republic trucks, Moline-Universal.

## Let Your Light Shine

We control nearly all this county on tractors. We don't intend to appoint any sub-agents, but we do intend to display one of our tractors in a garage in every town in our territory. We'll just let them stand there where the farmer can see them and look them over. The garageman is supposed to keep his ears open, and whenever a farmer talks or acts like a prospect he is supposed to notify us.

We'll send our tractor man from here and if a sale results we intend to pay the garageman a commission. Anyway, we think four to six tractors standing on display at various places in our territory will have more advertising value than the same tractors will have hidden in our warehouse here.—M. S. Brunner, Motor Sales Co., Newton, Ia., Dodge, Hudson, Essex and Moline-Universal.

## Roll Up Your Sleeves

To get tractor business you've got to have a guy with his sleeves rolled up. You can't sell automobiles in jumpers; and you can't sell tractors without them. It's natural for the man who buys a car from you to want you to show him how to run it. He wouldn't have bought from you unless he had confidence in you. The same thing happens in the tractor business. The same man can't demonstrate a car in the morning with his pants creased and a tractor in the afternoon with grease on his nose.

I've seen the time when I had to put on overalls and do some plowing myself. When I got through I was in no fit condition to sell a motor car. So to my way of thinking there's only one way out of it—departmentize your business.—M. S. Brunner, Newton, Ia.

## More Tractor Ideas

on pages 38, 44, 45, 46.



## The Shoe on the Other Foot

If I buy a team from a farmer what guarantee does he give me? None, beyond the claim that as far as he knows the horses are sound in wind and limb at the time I buy them, and after that it's up to me. If one of my horses dies the very next day, it's my loss, isn't it? Sure.

Then why should I sell the farmer a car or a tractor and agree to protect it against everything he may do to it? I demonstrate that it is in good working condition when I deliver it to him and I show him to the best of my ability how to run it. What more has he a right to ask than that? I say to him:

"Now I've sold you a tractor that is all right and it will do the work I say it will. It will be all right if you will treat it all right. But if anything should go wrong, I've got the service station, the equipment and the men, and I'll give you prompt and satisfactory service whenever you need it. But this doesn't mean that I won't charge you for it. If it's your fault you'll have to pay; if it's mine, I'll stand it." This sort of an understanding at the start saves lots of trouble.—E. J. Miles & Co., Newton, Ia., Ford and Fordson.

## Education Costs Money

Every man who gets an education pays for it himself in one way or another, doesn't he? Then why should I undertake to educate the farmer at my expense? Show him, of course, but let him understand that if he wants me to make a good mechanic out of him he must pay me what that education is worth.—E. J. Miles & Co., Newton, Ia., Ford and Fordson.

## Grandfather Would Throw a Fit

Our farms here are small. Not many of them are over 160 acres. When a farmer tells me he can't afford to buy a tractor to use on a farm so small, or that he doesn't think it's good policy for him to buy, I say to him: "See here, if your grandfather should wake up now and see what you have around you to-day in the way of farm machinery he simply would throw a fit. To-day we are just as far behind where our grandsons will be as your grandfather was behind you. The tractor is an evidence of progress. To be up to date and to keep yourself out of your grandfather's

## Sell Tractors

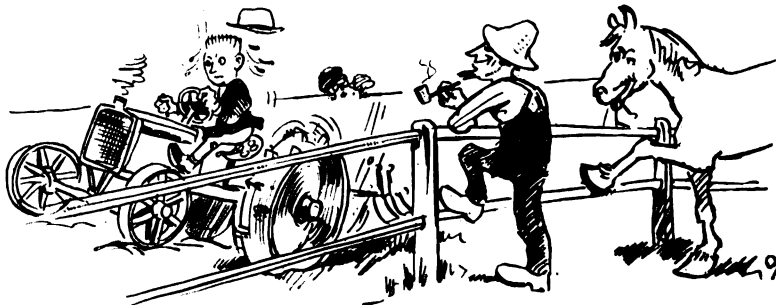
**Make Money in 1919  
Make More in 1920**

*More tractor ideas on pages  
37-44-45-46*

class you have got to have one. If you don't keep up to the minute you'll soon fall so far behind you'll never be able to catch up again. Just think about that a little while."—E. J. Miles & Co., Newton, Ia., Ford and Fordson.

## Ex-Farmers Best Salesmen

To be a successful tractor salesman a man should have had farm experience, particularly in field work. The man who can talk to



the farmer about the latter's field work has struck the shortest road to the farmer's interest.—F. H. Lang, tractor department, Dunlap Motor Co., Ames, Ia., Ford and Fordson.

## Sold the Small Boys

Consider the boys. I've put two or three little fellows, 10 or 12 years old, up on my tractor, have showed them how to run it, have told them they could run one if they had it, asked them how they'd like to have one and then sent them home. In two instances the fathers came later, saying: "You've got my boy. Guess I'll have to buy a tractor if I'm ever to have any peace of mind again." They both bought.—F. H. Lang, tractor department, Dunlap Motor Co., Ames, Ia., Ford and Fordson.

## If You Should Die—

A one-man proposition is no good, because that one man may die. Get your business organized so that it will be out of the one-man class. Put men at the head of every department, make them responsible and then make them saw wood.—E. J. Hauptert, manager Rude Auto Co., Perry, Ia., Ford and Fordson.

## Good Shop Essential

An experienced and capable repairman and a well-equipped repairshop are necessities nowadays if a man is to win out in the automotive business. I think it is well, too, for the dealer to equip his shop with tools and machinery especially adapted for service on that car of which there is the largest number owned in his locality. This whether he has in the past sold the most popular car himself or not.—E. A. Brockmann, Manning, Ia., Olds, Studebaker, I. H. C. trucks and Titan tractors.

## Be Sure of Your Battlefield

When you're making a tractor demonstration be sure you know what you're doing. When you can't make your tractor perform there's sure to be a fellow just over the

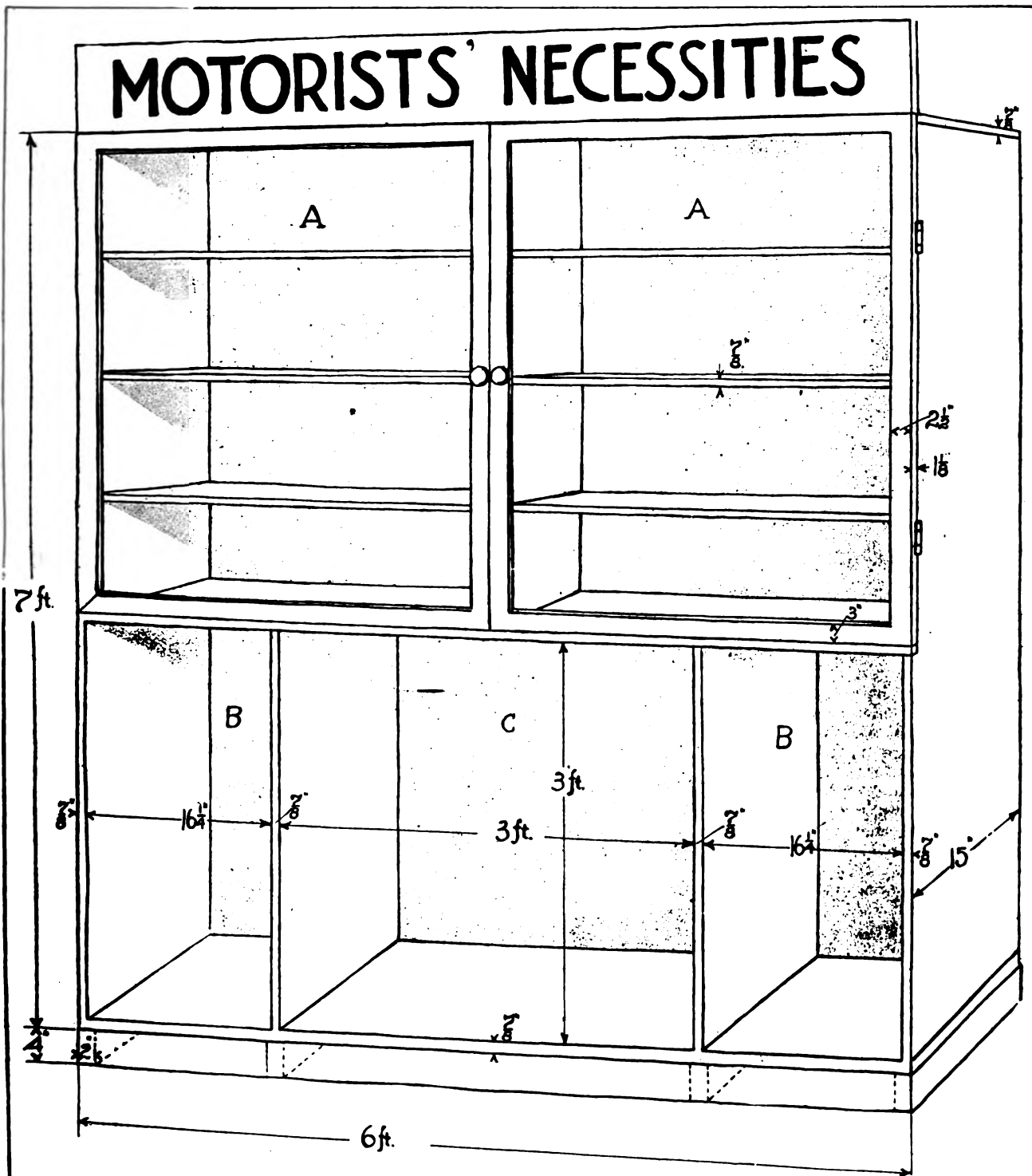
fence who will yell: "Oh! I told you so—that's your tractor for you." I once tried to start a tractor in a field that just had been ditched for tile and was full of soft spots. I had one heck of a time. I made that tractor stick, however, by sticking to the tractor. But I won't forget the experience in a hurry. The tractor salesman and the tractor demonstrator have a battle on their hands at the best, and they want to survey their ground in advance just as any good general would do.—G. E. Lebo, manager, tractor department, Crary Motor & Implement Co., Boone, Iowa.

## Know Your Machine

Our experience in selling tractors has taught us that the chief qualification for a successful tractor salesman is a thorough knowledge of his machine. Of course, it takes salesmanship to sell anything, but the man who is versed in farming and knows how his tractor in particular can be adapted to the need of the individual farmer will get a good deal farther selling tractors than will the mere salesman.—R. E. Lester, E. A. Lester & Co., Perry, Iowa, Hupmobile, Lexington and Moline-Universal.



# Set This Beside Your Driveway



**T**HIS runway cabinet for the display of automotive equipment will pay for itself many times over in a year. It should cost \$50 or maybe more; maybe a little less. It can be of ash or oak in hard wood or yellow or North Carolina pine in soft wood. Or other woods may be used. The upper sections—A and A—are foot-high shelves behind glass doors. B and B may be shelved for

small goods, although top shelves should not come out so far as to obscure lower shelves. C is for tires or other large displays. Robes and dusters could be shown in C on a cross rod made of broom handle. The back may be lined with a composition board. If electric lights, concealed in reflectors, can be placed in the upper front corners of each com-

partment it will add greatly to the effectiveness of the display, although it will cost a trifle more. If you have some boards about the place and build this yourself it should cost very little. **SET IT BESIDE YOUR RUNWAY, FILLED WITH GOODS, CHANGE THE DISPLAY EVERY WEEK, AND WATCH THE STOCK MOVE.**



### Get the Price!

My idea about sales is to tell the people the truth and get full value for the car when it is sold. If that is done and you do not feel like the purchaser has stuck you then you are in a better frame of mind to give the owner 100 per cent service. Or, in other words, you have no desire to hang it on him with his service bills. Thus you save the owner from getting sore and going some place else. I believe in getting full price out of everything we sell.—Ralph Wilson, manager, Columbus Cadillac Co., Columbus, Ohio.

### Hot After Them!

The reason why we sold 25 cars during the recent Columbus Automobile Show was that we went after orders and not prospects. We have no interest in prospects if they do not soon develop into orders. It is like a dog chasing a flea on his back. As a result, he runs around in a circle. We soon spring the order properly filled out and ask the man to sign.—Ralph Wilson, manager, Columbus Cadillac Co., Columbus, Ohio.

### Experts!

The world is getting full of experts on motor cars, amateurs who have owned two or three cars and think they know all about motors, and so forth. They want to argue from purgatory to breakfast, to tell the salesman just what is the matter with his car. Usually these are wealthy men, who rather overawe the salesman; and the poor devil, on the defensive, sometimes actually gets into the position of apologizing for the manufacturers! Yet it is seldom profitable to string out a discussion of this kind—for such prospects really don't know enough technically about the car to understand technical explanations that the salesman may make. F. M. Ephland, Roamer dealer in Kansas City, says: When a man begins arguing over the points of my car I say "You have owned five cars—I have owned 500!" That generally settles the argument.

## SELL CARS

**Make Money in 1919**  
**Make More in 1920**

*More car sales ideas on pages*

16-17-41-57

### Guarantees the Price

We guarantee the price on every automobile we sell until the early winter. In that way we answer the argument of the prospect that there is liable to be a price reduction. In case the price is reduced we pay the difference to the purchaser. We find that a good method of closing a deal for an automobile.—Frank Kaiser, Kaiser Motor Car Co., Columbus, Ohio.

### Car Not Good Enough

This is a peculiar year for motor car selling—you never can tell what's likely to pop up. I've reached the conclusion that in case of doubt as to why the prospect hesitates, switch to a higher priced car. Had a good prospect the other day; he was wavering. He liked the \$2100

car I had been trying to sell him—the one I thought would just fit his pocketbook. One day I called him on the phone—he said, rather half-heartedly, "Well, you might come down and talk it over again." I jumped into a \$3500 car of another make that we handle, to get quickly to the prospect. He saw the car draw up before his window. He came out to look at it—and bought it. I've tried corresponding stunts since, switching to higher priced cars, and it has worked again. You never can tell.—Fred L. Ermis, Moriarty Motor Co., Kansas City.

### Parts ON HAND Insure Service

It isn't what you make on parts, but the advantage they give you in rendering service that is important. We carry a complete stock of every essential part that can be needed on the cars we sell; consequently when one is needed we have it right here and there's no delay about putting it in. If you are in a position to give instant service and do give it, that's your very best advertisement and sells cars for you.—Earle Black, Pella Motor Co., Pella, Ia., Overland, Moline-Universal.

## BECOMING AN EFFICIENT MOTOR CAR DISTRIBUTER

DEALER	TOWN	STATE	TER.
CHECK YES ✓	DATE OF CALLS		
CHECK NO O	YES		
1. DEMONSTRATOR	NO		
NEW CAR ON	YES		
2. SALES FLOOR	NO		
	YES		
3. CAPITAL	NO		
SERVICE	YES		
4. STATION	NO		
SELLING	YES		
5. ORGANIZATION	NO		
LETTERS	YES		
6. TO PROSPECTS	NO		
	YES		
7. TRADE	NO		
	YES		
8. SIGNS	NO		
	YES		
9. NEWSPAPER ADV.	NO		
	YES		
10. WORKING TER.	NO		
SELLS	YES		
11. AT LIST PRICE	NO		
	YES		
12. PROFITS	NO		
SCORE			

The Hudson-Brace Motor Car Co., Kansas City, has a plan that every other distributor should use. The Brace brothers—Bill and Hal—try to make their dealers more efficient, because that makes more money for the dealers and for Hudson-Brace. The traveling men check up each dealer on every visit on a form like that shown herewith. If he improves he is a good dealer. If he gets worse each trip, or fails to improve, he is no good as a dealer. Try it in YOUR territory. The big point is that it is a definite, systematic plan.



### Keep the Cars Running

Don't let your customer be out of the use of his car. Don't keep it sitting around your garage. If it needs attention give it at once. If you haven't the equipment, men and parts to do this, then get them. The equipment for service should be commensurate with the number of cars you have in your territory. Anything less than this means delay to your customer and a loss of your own prestige.—Fred Lanke-man, Pella Motor Co., Pella, Ia., Overland, Republic trucks and Mo-line-Universal.

### Are You "Plate Glass Shy?"

A salesman must above all else have self-confidence. Too many are plate-glass shy. They go into an office and let the prospect dictate to them, feel that they are inferior to him and are asking a favor instead of granting one. When a man talks motors he should feel that he knows more about the business than the man he is canvassing and act accordingly—courteously, of course.—F. M. Ephland, Roamer Motor Co., Kansas City.

### Service Sold Them

Recently we changed our line of cars. Since then we have realized the value of service previously extended, for many of our old customers have come to us for the new car, stating that they placed the Rottersman service above the name of any car.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

### What Makes a Salesman?

In engaging a salesman we look almost solely to his personality and social standing. These two qualities are worth more than even believing in the article he has to sell.—J. B. Durkee, Buick, Kansas City.

### Schools for Salesmen

After a salesman is engaged we send him to school. We hold one three nights in the week, even if there is but one man to be instructed. We teach him how to approach a man—if he does not already know how—train him in the qualities of our car and answer questions he may ask.—J. B. Durkee, Buick, Kansas City.

### Push Car Sales

#### Make Money in 1919 Make More in 1920

More car sales ideas on pages  
16-17-40-57

### Doesn't Bother with Skeptics

People are buying cars so fast that we don't waste much time in fruitless arguing with prospects who won't believe our honest answers to mistaken notions as to coming reductions in price.—Fred L. Ermis, Moriarty Motor Co., Kansas City.

### Look Over His Record

In engaging a salesman we count his greatest asset the number of customers to whom he has already sold cars. He must have had experience selling motor cars before we will consider him.—F. M. Ephland, Roamer Motor Co., Kansas City.

### Poor Roads Cost YOU Money

Every motor car dealer should be an advocate of good roads. Poor roads in Iowa have cost us three months' business this winter. We'll have to do a whole year's business in nine months now to break even.—Swaney Motor Co., Carroll, Ia., Ford and Fordson.

### Shop Is Now Separate

C. E. Davidson, Santa Fe Trail Garage, Kansas City, has leased his repair shop to mechanics, who are glad to be called to perform some little free service for Davidson, such as putting in spark plugs for regular storage customers or transients, as these courtesies lead to business—if the mechanic has his ears and eyes open.

### Those Price "Waiters"

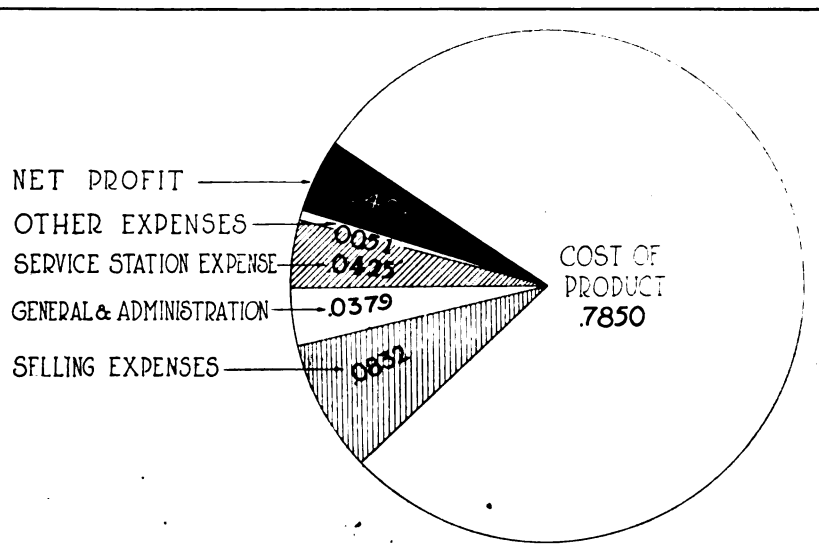
When a prospective buyer says he is waiting for prices to fall, I ask him if he can tell me when the cost of labor is going to drop. He will frankly confess that he doesn't know. Then I inquire if he is going to walk in the meantime. The answer in nearly every case is "no." After that I get him to sign up.—O. L. Black, Vice-President and Sales Manager, Auburn Motor Sales Co., Louisville, Ky.

### Pushed Prosperity Over

By a united campaign on the part of dealers, through news stories in the newspapers, statements from factory officials, etc., the Los Angeles dealers have succeeded in overcoming the bugaboo about further reductions in automobile prices and the subject now is seldom raised. Manufacturing conditions at this time have been explained so generally that the car buyers have been made to understand they can gain nothing by doing without a car now, when they need it.

### WHERE THE DEALER'S DOLLAR GOES

As outlined by Henry Paulman, Chicago, 17 years a dealer





# Making a Home Fitting to the Business

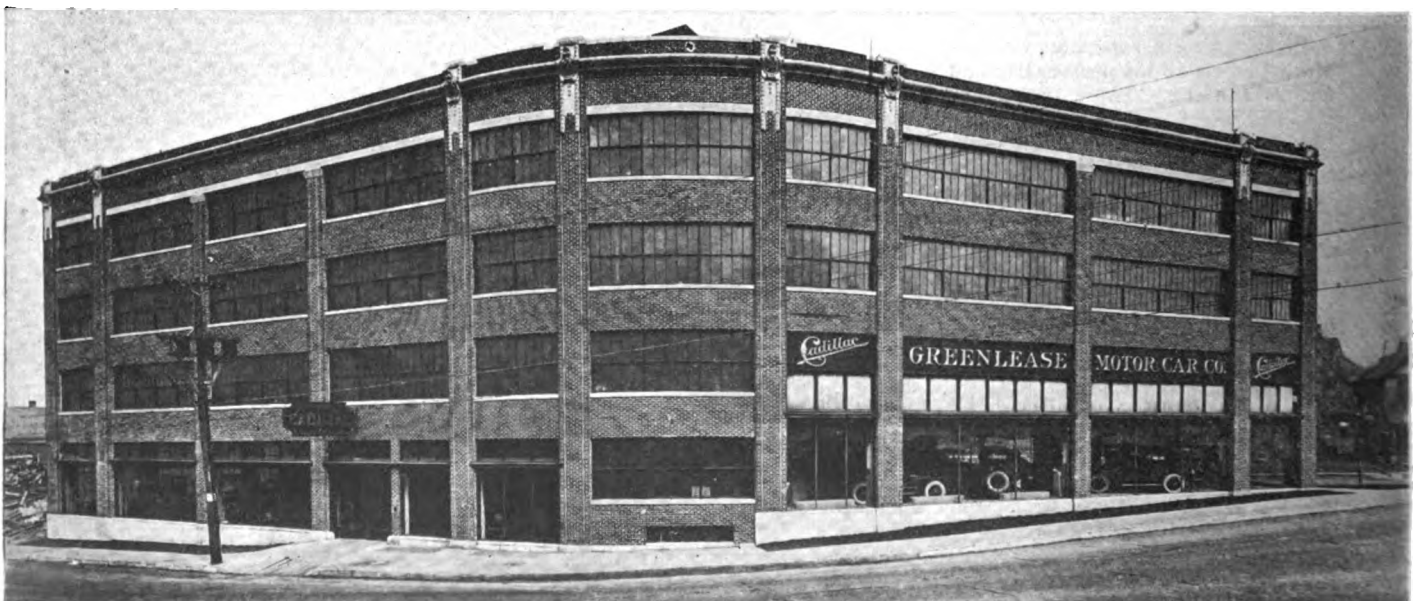


The Greenlease Motor Car Co., which sells the Cadillac in Kansas City and the Southwest, has just completed a new business home. It is one of the finest in the trade. It is of a type that is coming to be distinctive of the motor car business. It provides a setting that of itself will help build for Greenlease a great business in 1919 and a greater business in 1920.

*ABOVE—Ten thousand motor car owners every morning on Gillham Road and McGee Trafficway get this view of the new Greenlease house of business. Can they think other than that their patronage is safe here?*

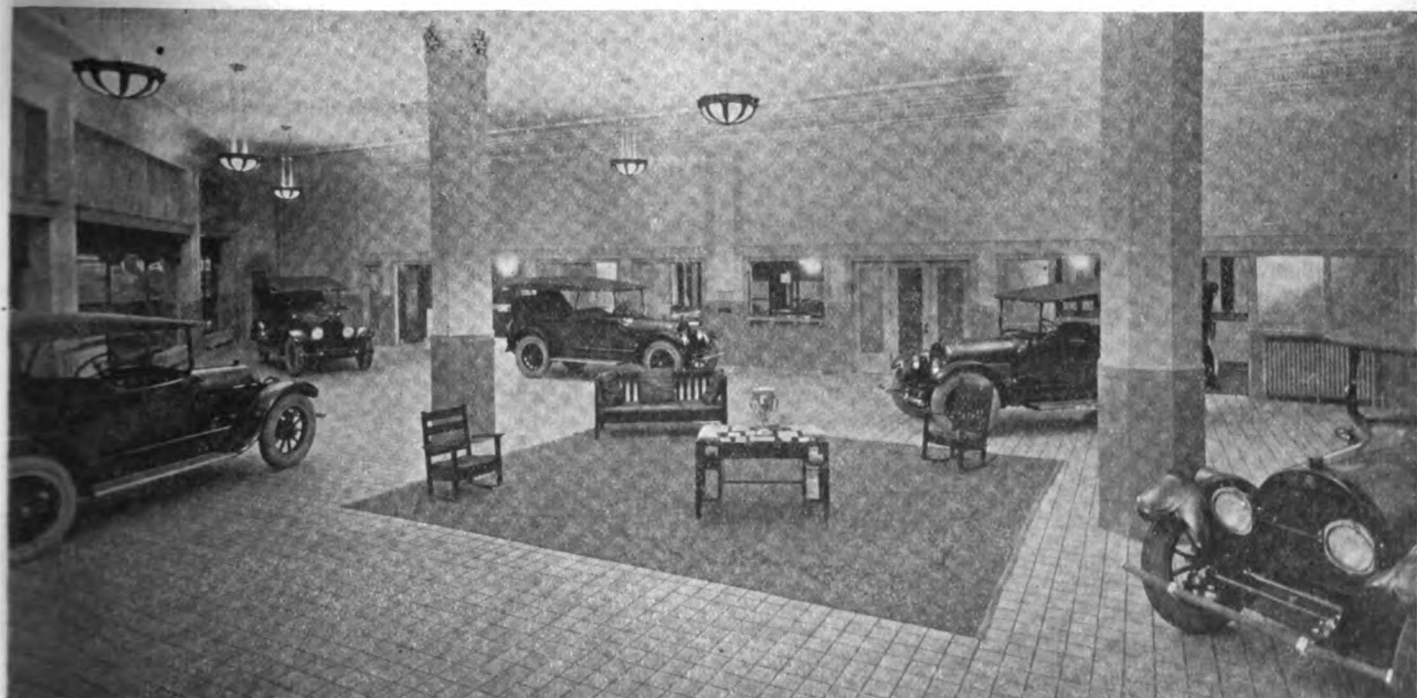
*SIDE—And at night when dusk is falling the same ten thousand get this view of the Greenlease interior, brightly illuminated and fittingly furnished*

*BELOW—And on the far left side of the picture what you may think is more new car salesroom is the used car salesroom. It helps give buyers confidence in Greenlease used cars*





# Your Car Deserves This Atmosphere



*No matter how small your salesroom you can inject into it the atmosphere which prevails in the new business home of the Greenlease Motor Car Co. of Kansas City. A few artistic touches will help you make money in 1919 and more in 1920*



### **Start the Buyer Right**

Starting right is the main thing in selling tractors. Leave your customer contented and happy or your tractor won't stay sold. If necessary devote one, or even two days, to the job of starting and instructing. After that you safely can limit the amount of free service you'll stand for.—G. E. Lebo, manager tractor department, Crary Motor & Implement Co., Boone, Iowa.

### **In Terms of Spring Work**

The very best prospect for a tractor is the farmer, who has a bunch of spring work to do and who has to buy horses or something else to do it with. If he already has the horses talk shortage of labor to him. That work has to be done, you know.—G. E. Lebo, manager, tractor department, Crary Motor & Implement Co., Boone, Iowa.

### **Be Ready for Demand**

There's nothing like being ready for tractor trade when it comes. We have 31 tractors salted away here now and we can make delivery any time. You see, I've got my banker converted on the power farming idea and can go to him at any time and get the money where-with to stock tractors. That's important, too. The ability to get money and the nerve to stock the machines in anticipation of the demand are characteristic of the new element which is coming into the tractor business.—E. J. Hauptert, manager, Rude Auto Co., Perry, Iowa, Ford and Fordson.

### **Teach Operation**

The tractor is more liable to abuse and is more easily abused than is any other piece of equipment the farmer buys. For this reason, in delivering a tractor, be sure the farmer knows all about its capacity for work and how to operate it. Our practice is never to deliver a tractor to the farmer when he thinks he knows how to run it, but only after we know he knows how to run it. You know there are men who think they can step right into a motor car and drive it home without any instruction. Usually they try to climb a tree with it before they have gone half a mile. It's the same way with tractors. Seeing to it that your customer is a thorough master of his machine before you leave him alone with it saves trouble, expense and excessive service.—E. J. Hauptert, manager, Rude Auto Co., Perry, Ia., Ford and Fordson.

## **Sell Tractors**

**Make Money in 1919  
Make More in 1920**

*More tractor ideas on pages  
37-38-45-46*

### **Get a Farmer-Manager**

I believe that in departmenting an automotive business it pays to put a practical farmer at the head of the tractor department, *provided* he is O. K. as respects the other necessary qualifications for a salesman. Such a man knows the farmer and can talk his language. Then send him out to sell the power-farming idea. Talk the tractor only incidentally and as a means to an end. This enables you too to drag in the implements which go with a tractor, because you can tell the farmer that a tractor is no good without the equipment. Show the farmer how power-farming methods will make him a better farmer and how they will make him more money and how the power equipment will make the boy more satisfied and tend to keep him on the farm. Having sold this idea the mere getting the order for the tractor is easy. Set a farmer to catch a farmer—I've tried it and it works.—E. J. Hauptert, manager, Rude Auto Co., Perry, Ia., Ford and Fordson.

### **Know Your Farm Conditions**

To sell tractors the dealer must thoroughly understand the conditions a tractor will meet in his territory. Take this locality, for instance. The country is hilly and farmers have lots of trouble making the machines they have bought climb these hills and pull any plows at all. The result is that most of them are from Missouri and you've got to show them what your tractor will do. There's no use trying to sell a tractor here which won't meet these conditions. The dealer must know what his machine will do else he will get into trouble. I take it that the same thing is about so anywhere in the tractor business.—A. E. Brockmann, Manning, Ia., Studebaker, Olds, I. H. C. trucks and Titan tractors.

### **The Implements Also**

The motor car dealer who takes on tractors might as well make up his mind that in time he will be

handling all kinds of farm equipment as well. Here in this locality, for instance, the farmer likes to own his own threshing outfit, and the dealer must not only sell a tractor which has the belt power to operate a separator, but he must get ready to sell the separator too. He might just as well do this, because he has the mechanics anyway, and he can give service on the whole outfit.—A. E. Brockmann, Manning, Ia., Titan tractors.

### **Let Nature Help You**

Nature works for the tractor man in the spring. The farmer's hardest work comes then and his horses are the least able to stand it. Horses are soft in the spring and can't stand hard knocks. They get sore shoulders and it not infrequently happens that because of this the farmer can't get in his early spring wheat in time. You see, he won't use a press drill, as he ought to, because a drill takes so much power that it's too hard work for his soft horses and his subsequent crop is smaller than it ought to be in consequence. With a tractor all this trouble is avoided, the crop goes in when and as it ought to and the increased yield in a short time will pay for the tractor and the equipment that goes with it. Present this to the farmer and you've got him.—Swaney Motor Co., Carroll, Iowa.

### **Must Have a Manager**

The small town merchant who sells cars, trucks and tractors can well afford to departmentize his business. A truck or a tractor sold means equipment. A tractor, for instance, often calls for \$5,000 worth of equipment. No one will follow that up except a department manager.—George Weber, president, Weber Implement and Auto Co., St. Louis.

### **Service Means Men and Tools**

Success in selling automobiles, motor trucks or tractors depends largely on service. My idea of service is to have the men and the tools. I mean by men some one who will not only go out and attempt to do things but one who actually goes out and does them. Such men are few and far between. But you can get them—I have one, for instance. And you've got to give that man the tools—tools that are adapted for the special work that has to be done—then you can give real service.—Chas. R. Note-stine, Newton, Iowa.



### Avoid Credit Business

The automotive dealer in the small town, to make any money, must keep as far away from the credit business as he can and give prompt and efficient service. The equipment for the latter is of first consideration. Then he must be careful about trading it. Unless I have the old machine already sold I won't allow anything better than a junk price on it.—A. E. Brockmann, Manning, Iowa, Studebaker, Olds, I. H. C. and Titan tractors.

### Stick to One Line

Concentrate on one line and make your selling price cover the service you must give. Service is essential to success, but you ought to get pay for it. Where a dealer tries to sell more than one make the tendency is to cut the price and service necessarily suffers.—H. J. Olberling, Carroll, Ia., Chalmers and Advance-Rumely.

### Make Sure They Fit

I don't believe in trying to sell a tractor to a man who farms less than 200 acres. I don't believe a tractor is an economical proposition on a small farm. I advise the small farmer not to buy a tractor. I am going to sell threshing machines and I must sell a tractor large enough to run them, and a threshing outfit is too big a thing as a rule for the small farmer.—H. B. Alberling, Carroll, Ia., Chalmers and Advance-Rumely.

### Talk Farm Problems

Talk to the farmer about the things he knows when you are trying to sell him a tractor. Ask him how often it has happened that untimely spring rains have left him with too little time to plow and get his spring wheat in. Then show him how, with a tractor, he can work night and day, if necessary, taking advantage of the favorable periods the weather gives him. You'll find him listening to you.—Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

### It Saves Seed

If your customer says he can't afford a tractor show him how he can save one bushel of seed per acre by using a press drill instead of broadcasting it—the ratio is two bushels for the former to three for the latter. If he has a tractor he can use a drill, and the saving in seed at present prices for seed wheat on an average acreage will go far toward the cost of power equipment.—Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

## Sell Tractors

**Make Money in 1919**

**Make More in 1920**

More tractor ideas on pages  
37-38-44-46

### Like the Old Car Days

Putting the tractor business across is just putting the farmer wise to needs he doesn't know he has. It's just the same process we went through with the motor car ten years ago and it's going to work out in the same way.—Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

### Flood the Knockers

The man who continually keeps knocking tractors generally is a good prospect for one. He's just looking for a chance to be convinced. Send him all the literature and dope you've got. He'll read it just to get other reasons to justify his knocking if for no other reason. The first thing you know he's convinced himself and you make a sale.—W. A. Pohl, Boone-Buick Auto Co., Boone, Iowa, Buick and Samson.

### Get Him Angry

Size up your man first. If he's a rich old devil who hates to jar loose from his dough, tell him so. Get him a little sore at you first, especially if you think he is leaning a little in your direction. He'll probably buy to spite you.—W. A. Pohl, Boone-Buick Auto Co., Boone, Iowa, Buick and Samson.

### Young Men Are Prospects

Go after the young men for tractor sales. The old men in most communities are too conservative.

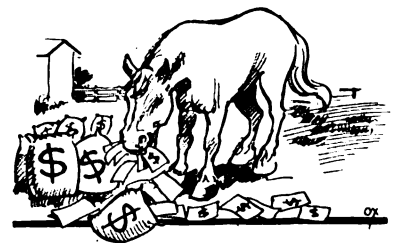


They shy at novelty and innovation. "That may be a good thing all right, but let the other fellow try it first." That's the normal attitude of the old man. The young fellows are different. Some of them are coming back to the farm now from the war, and they are used to automotive equipment. They want a tractor. The young

fellow who stayed at home while his brother went wants a tractor, too, to help him with the double work he has undertaken. Get after the young fellows—they're the real tractor prospects.—F. Le Cocq, Star Automobile Co., Pella, Iowa.

### Can't Afford to Feed Horses

If you are selling tractors anywhere in the corn belt tell the farmer who says he can't afford to buy a tractor that it is equally sure he can't afford to feed \$1.50 corn, raised on land worth \$250 an acre, to a horse, especially when it takes 5 acres of such land to keep a horse for a year. The farmer is a



reasonable animal and can be convinced by a few figures which he can't dispute.—Earle Black, Pella Motor Co., Pella, Ia., Overland, Republic trucks and Moline-Universal.

### Must Learn Farming

The tractor salesman, to be successful, must know how to farm. The man who doesn't know and tries to sell tractors has my sympathy.—G. E. Lebo, manager tractor department, Crary Motor & Implement Co., Boone, Iowa.

### In Terms of Harness

A set of harness for a poor team costs just as much as a set of harness for a good team. Harness costs about \$100 a set these days. Three sets of harness and three teams of even poor horses mean about as big an investment for the farmer as does a tractor. Make the farmer think about this.—G. E. Lebo, manager tractor department, Crary Motor & Implement Co., Boone, Iowa.

### In Terms of Corn

Just tell the farmer to take a bushel of corn and walk along in front of a bunch of horses and see how long it will last. Tell him then to take a pencil and figure out how much it costs to feed a horse at present prices for grain. It's an object lesson that will hit him just where he lives when you're talking tractor.—G. E. Lebo, manager tractor department, Crary Motor & Implement Co., Boone, Iowa.



### Definition of Service

Tell your tractor customers right from the jump that the definition of service is that service is something done well and done promptly, and that also it is something that has to be paid for. If you live up to that definition of service, then the farmer will pay willingly. The farmer has been educated by the implement trade that the way to spell service is "f-r-e-e," but this is because the sort of service the implement man gave was expensive, even when it was not charged for. You must disabuse the farmer's mind of this ancient idea of service by showing him what real service is. —F. Le Cocq, Star Automobile Co., Pella, Iowa, Ford and Fordson.

### Makes Farmer Independent

Horses are so cheap now that the farmer is inclined to argue that even if he can dispose of part of his by buying a tractor it will not pay him to do so. In this case we use the argument of timeliness in doing his work. Many times a difference of ten days in the time of threshing his small grain makes a big difference in the value of the wheat threshed. And many times he is delayed because the regular threshing outfit can't get to him. Then plowing, seeding and the like must be done at the proper time to insure the best results. This cannot always be done when the farmer has to rely upon horses. The farmer who owns a tractor is boss of his own time and can do his work just when it suits him best to do it. Then, as a tractor will operate on both the belt and the drawbar, it makes the farmer independent of conditions. The average farmer readily responds to this line of argument.—E. L. Wilson, Jefferson Auto Co., Jefferson, Iowa, Ford and Fordson.

### Must Sell the Implements

The real job in the tractor business is to fit the equipment which will be used with the tractor to the capacity of the tractor. I've seen farmers trying to pull four bottoms with a three-bottom machine and then cussing the tractor because they could not get away with it. For this reason it's up to the dealer to know and then to tell the farmer what he can do and what he can't do. Also for this reason the tractor dealer will find it necessary that he himself sell the equipment which is to go with his tractor and which is fitted to it. This means not only tillage implements, but other ma-

## Sell Tractors

**Make Money in 1919**

**Make More in 1920**

*More tractor ideas on pages  
37-38-44-45*

chines as well. For instance, we have contracted for a line of threshing machines which we sell this year, and all our branches will sell the same line.—Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

### Sell Him a Car First

The tightest man in the world will loosen up after he's bought an automobile. He gets his ideas broadened all along the line. He gets out of the rut he's been running in and finds he has a wider horizon. The man who says 20 m.p.h. is fast enough for him gets to be the worst kind of speed maniac once he gets his hand fitted to the steering wheel. Sell a man an automobile and you can sell him *anything else in the line*.—W. A. Pohl, Boone-Buick Auto Co., Boone, Iowa, Buick and Samson.

### Follow-up Service Pays

The follow-up is one of the most important parts of tractor service. What I mean is best illustrated by telling what we do. A tractor is delivered to a customer by our shop foreman—the man who may have to overhaul it some day. The salesman who made the sale must call in a few days later to see how the customer is getting along. The tractor service man makes the second call and at the time makes any little minor adjustments that appear necessary or wise. Then the salesman must make still another call to be sure the customer is getting along all right and is satisfied. All this makes the customer realize that the commission we made on the sale was not the only thing we had in mind, but that we have a real interest in his welfare and want to see that he gets what he paid for. This follow-up service makes for new sales.—E. J. Haupt, manager, Rude Auto Co., Perry, Iowa, Ford and Fordson.

### How Tom Swaney Did It

How I got a farmer to sell a big tractor and buy a Fordson illustrates the way the tractor dealer has to figure at times. This farmer's big tractor weighed 6400 lb. I

started in by figuring for him just how much it took of the whole amount of kerosene he burned in it to move the tractor itself at the speed he usually ran it. Then I showed him how much less kerosene it would take to drive my smaller tractor the same distance in the same length of time. I also showed him that without taking any time out to replenish the fuel, my tractor, because of its greater speed, would go so much farther in the same number of hours that it actually, with its two bottoms, would plow as much land as his big tractor would with three plows.

Then I pointed out to him that when he worked his big tractor the fuel tank would not hold enough to run a full day, necessitating the use of a team to haul fuel into the field and the time of refilling the tank must be lost. With the small tractor, on the contrary, so much less fuel was used that its tank would hold enough for a full day's work, and at evening he could ride up to the house on it and fill it up again after the work for the day was done. In the morning he could ride on it again to his work. This was impracticable with the big machine.

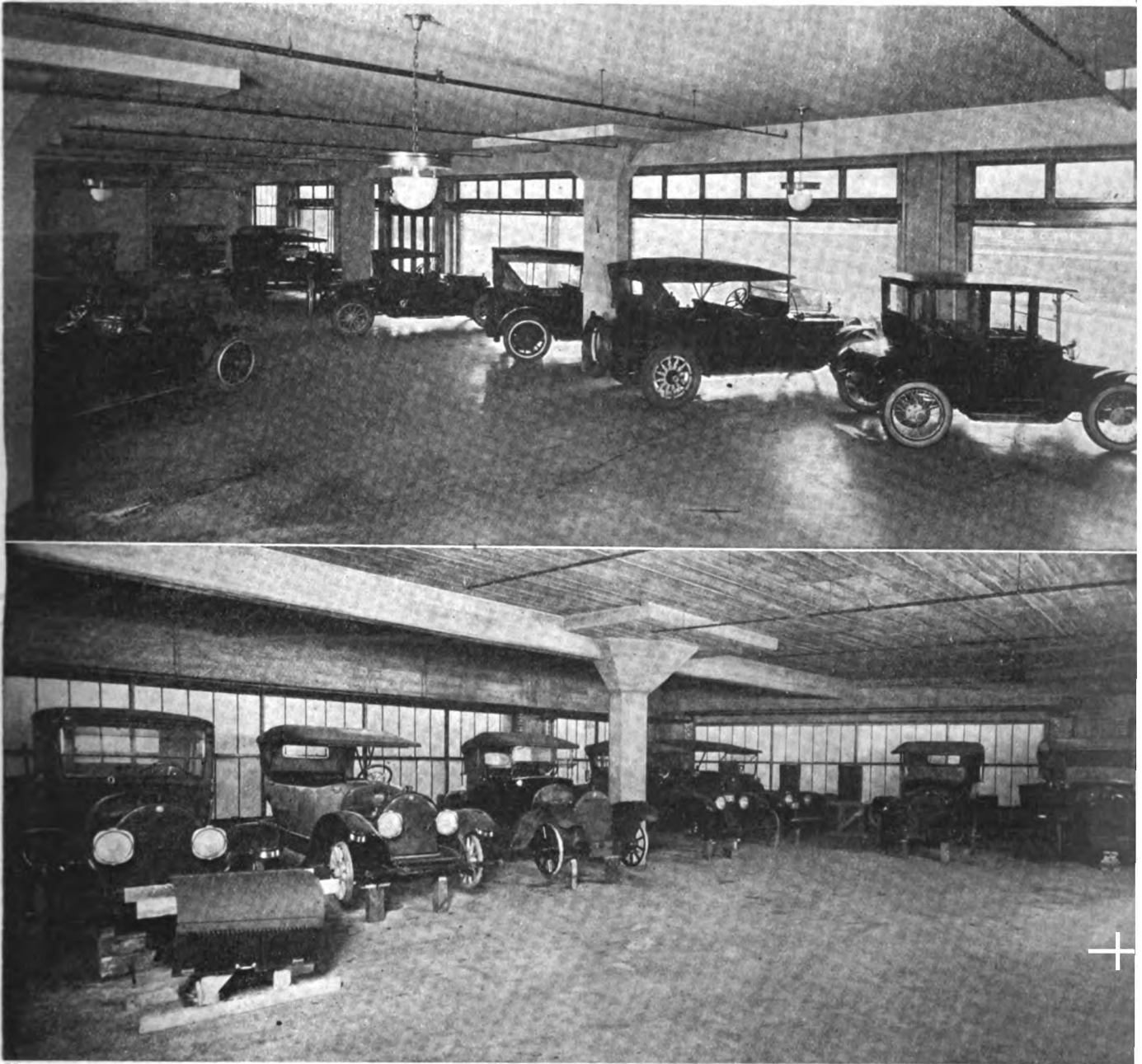
This sort of reasoning so struck that farmer that he sold his big machine and bought a Fordson and has been perfectly satisfied ever since.—Tom Swaney, Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

### Run a Farmers' School

Early in February, in order to start the tractor business going, E. J. Haupt, manager the Rude Auto Co., Perry, Iowa, invited all present Fordson owners and all prospective buyers of Fordson tractors in his territory to attend a one-day school of instruction at the company's salesrooms. About fifty farmers responded. Wilbur Collman of Des Moines, superintendent of the Herring Motor Co. tractor service, was there and explained the Fordson tractor from stem to gudgeon. A Fordson that had seen hard service all last season was brought in from the farm just as it was and was totally disassembled before the audience. The purpose was to show how little the parts of the tractor showed wear after the hard service it had seen. The demonstration was so conclusive that four sales were made immediately, three of the four purchasers being among the farmers present. Thus four tractors were delivered in February, a month not usually remarkable for tractor sales.



# These Used Car Methods Make Money



*When the Greenlease Motor Car Co., Kansas City, takes a used car in trade it fixes the car up, repaints it in the shop shown above and displays it on a main throughfare in the salesroom at the top of this page. Putting "class" into the business forces out the troubles and grief*

## ***The Sky's the Limit***

When you fix up a used car go the limit. Don't spend \$200 under the hood and then show the car to a customer with the top torn or shabby. Overhaul it completely once and for all, regardless of what it costs. Any used car which is worth reselling at all is worth fixing up right. If it isn't then junk it and be done with it. A used car properly overhauled will bring a

price which will justify the expense incurred. That's the way to make the used car department profitable. —Earle Black, Pella Motor Co., Pella, Ia., Overland, Republic trucks and Moline-Universal.

## ***Trades 'Em Upward***

We try to get our salesmen from houses that sell lower-priced cars than ours, and this is why: Most

motor car owners have begun with a moderate-priced car and it is a fact that they usually graduate as car owners, that is, they are seldom contented, if their means permit, to buy a low-priced car for their second purchase. A good salesman from a low-priced house understands this and from his personal knowledge is able to trade upwards. —O. S. Compton, sales manager Z. S. Gertner Motor Sales Co., Oakland, Philadelphia.



## New Ways to

# Make Money in 1919 Make More in 1920

**Sell Automotive Equipment—and on these pages and those that follow are suggestions as to what to sell—and why—and how**

### BABITANK WINDSHIELD HINGE

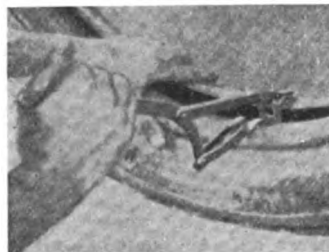
This is a hinge for windshields on Fords by means of which the upper glass of the windshield can be tilted in such a position as to throw air down into the driver's compartment or the windshield may be turned outward to form a rain vision. The old adjustments on the windshield are retained and two new ones added. It can be placed on the windshield in a few minutes without the use of special tools. Price \$3.25.—Accessories Mfg. & Sales Co., 49 New Street, Newark, N. J.



Babitank Windshield Hinge

### WOODWORTH TIRE BEAD SPREADER

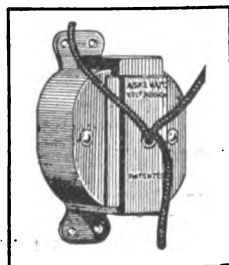
This is a tool for spreading the beads of a casing so that the interior of the tire can be seen for inspection or repairs. It will spread the beads of any size tire up to 38 x 7 and when the beads are spread the tool is locked in position holding the beads apart without the necessity of holding the tool. Made of cold rolled steel. Price \$1.50.—D. C. Woodworth, Lewiston, Me.



Woodworth Tire Spreader

### ASKE AUTOMATIC VOLTAGE REGULATOR

This is an automatic voltage regulator for Ford lamps. It maintains a uniform voltage and consequently a uniform light from the headlamps at all engine speeds. The device itself weighs less than 2 lb. and is attached to the front of the dash under the hood. Price \$5, complete with tail light diagram.



Aske Regulator

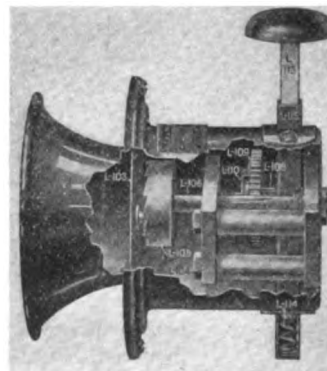


Moore Goggles

Another model with dimmer, \$4.  
—Aske Automatic Voltage Regulator Co., Duluth, Minn.

### MOORE ADJUSTABLE GOGGLES

This is a pair of goggles with green or amber lenses, the lenses being adjustable as to position. Under ordinary circumstances the lenses are flat or at right angles to the line of vision. A small adjustment at the side allows the shade to be thrown out forward so that the lenses become eyeshades and the eye looks beneath them and not through them. Price \$4 per pair.—Aske-Moore Corp., Duluth, Minn.



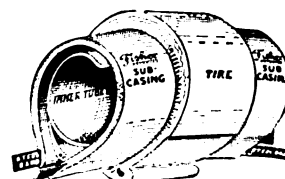
Liberty Hand Horn

### E. A. LIBERTY MODEL HAND HORN

This is a hand horn with short projector and can be mounted on either left or right side. The mechanism is greatly shortened by using the front face of the rotor instead of the outside diameter for producing the vibration and the rotor is much smaller in diameter. Made durable and especially adapted to truck service.—E. A. Laboratories, Inc., 54-82 Broadway, Brooklyn, N. Y.

### FISHER RIM-GRIP SUB- CASING

This is a sub-casing to be placed between the casing and the tube. It has a steel band at the lower edges to hold rim cuts and relieve the outer casing of strain. Made in sizes from 32x3½ to 37x5, at prices from \$10.20 to \$26.50.—Fisher Mfg. Co., Lincoln, Neb.



Fisher Sub-Casing



**GREENLEAF AUTO LUSTRE**

This is a liquid cleaner and polish which may be used on bodies, windshields, etc. It is applied with a soft cloth, the dirt loosened, wiped off and rubbed to a polish with a clean cloth. It may be sprayed on if desired. Prices, pints 60 cents; quarts, \$1; gallons, \$3; trial size, 25 cents.—Greenleaf Products Co., 105-107 Federal Street, Boston.

**PANVAR AUTOMOBILE FINISH**

This is a finish that is transparent, self-leveling and flows on somewhat like a liquid polish. It dries overnight and has a hard, glossy finish. Price \$1.50 for 1 qt.; \$5 for 4 qt.—Panvar Co., Bulletin Building, Philadelphia.

**SIoux BUSHING REMOVER**

This is a set of six bushing removers for removing blind bushings which cannot be driven out from the other side. The remover is screwed into the bushing in which it cuts its own threads. This gives the grip on the bushing and a center piece is screwed through the bushing remover with a jack-screw effect until the bushing comes out. Price of the general set \$18. Special Ford set, price \$10.75.—Albertson & Co., Sioux City, Iowa.

**APCO STEERING COLUMN BRACE**

This is a steering column brace for Fords and goes between the dash and the steering column. One end is bolted to the dash by means of two bolts and the other end clamps around the steering column by means of bolts. It is made of malleable iron, black enameled and furnished complete with bolts, nuts and screws. Price 60 cents.—Apco Mfg. Co., Providence, R. I.

**STICKIT WRENCH SET**

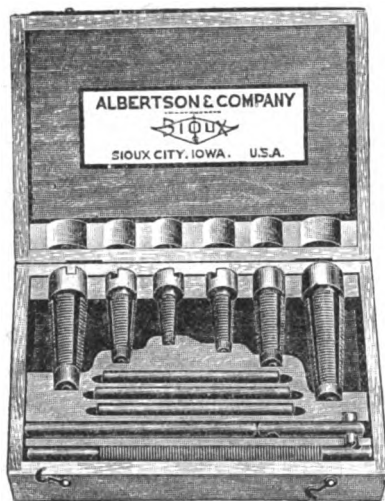
This is a wrench set consisting of a double ended ratchet wrench for operating seven strong stamped steel sockets strung on a square steel shank. One end of the wrench fits the shank, the other the socket. The wrench also fits four sizes of nuts and with the sockets it fits eleven different sizes of nuts and cap screws. One end of the shank has a 1 1/4 in. ball, which is removed if desired. The complete set takes up no more room than a large screwdriver and can be rolled up with the other tools. Price \$3.50.—Bay State Pump Co., Boston.

**SIoux VALVE TOOL SETS**

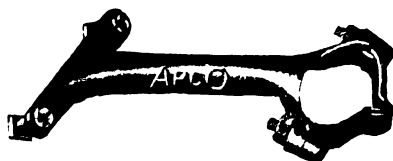
This is a set of tools for refacing valve seats in the cylinder blocks and a refacing tool for refacing the seats of the valves themselves. Three pilot stems are finished to accurate size. Furnished in 30, 45 and 60 deg. angles and any sizes from 1 to 4 in. in diameter. Price per set of five, \$22.50.—Albertson & Co., Sioux City, Iowa.

**Come Into the Sunlight**

Garagemen in cities seem just waking up to the fact that they have been losing a lot of good business, because they did not push automotive equipment. Garagemen in smaller towns, especially where there is much tourist business, usually have display cases of such equipment, and make money out of selling it. Dozens of garages in cities, even those which cater to tourist trade, being situated on marked highway routes, have neglected this possible business. But they are going after it this year. Of a dozen garagemen in suburban locations in Kansas City ten are installing departments for automotive equipment or moving these departments downstairs, or planning more aggressive selling methods. The other two are disgusted with the world in general and don't know what they are going to do.



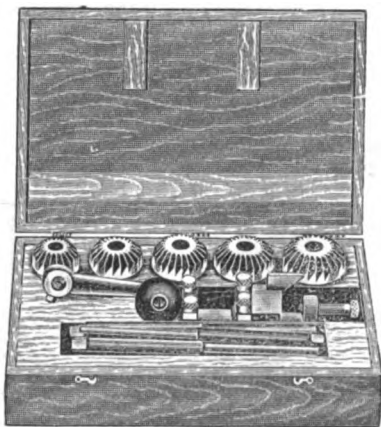
Sioux Bushing-Remover Set



Apco Steering-Column Brace



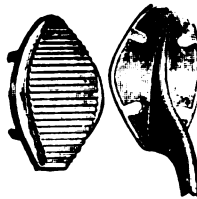
Stickit Wrench Set



Sioux Valve-Tool Set



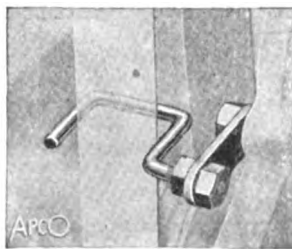
Apco Accelerator



Perfection Pedal Pads



Automatic Extension Reel



Apco Fan-Belt Guide

**O-CO CARBON REMOVER**

This is a liquid preparation intended to be inserted in the cylinders while the engine is warm and left overnight. It is claimed to soften the carbon and allow its dissipation through the exhaust valve. Prices, 4 oz. bottle 40 cents; pint bottle, 75 cents; quart bottle, \$1.25.—Farley & MacNeill, 105-107 Federal Street, Boston.

**NORWESCO IRON CEMENT**

This is an iron cement for permanently repairing cracks, defects, blemishes and sandholes in iron or steel castings. Price 6 oz. can, 25 cents; 1 lb. can, 50 cents; 5 lb. can, \$2.—Northwestern Chemical Co., Marietta, Ohio.

**APCO ACCELERATOR**

This is a foot throttle for Fords. The operation of the device is by means of chains and a rocker arm, and it is independent of the hand throttle. The pedal is located just to the right of the brake pedal and the finish is in black enamel. It can be installed without special tools in a few minutes. Price 55 cents.—Apco Mfg. Co., Providence, R. I.

**PERFECTION PEDAL PADS**

These are molded rubber pads encased in nickel frames made in a number of different sizes and models to fit almost every make of car. The pad prevents the foot from slipping and saves shoes from unnecessary wear. Prices range from \$1 per set for Ford cars to \$1.50 per set. A catalog is obtainable giving details as to which set fits different cars.—Auto Pedal Pad Co., Inc., 794 Seventh Avenue, New York City.

**AUTOMATIC EXTENSION REEL FOR ELECTRIC LAMPS**

This is a reel which has a spring somewhat like a shade roller, and the cord of the electric lamp is wound on the reel when not in use. The cord is unwound by pulling against the tension of the spring and when sufficient cord is unwound a ratchet prevents it from going back until needed. The reel can be attached to the ceiling or conduit. A swivel joint enables the lamp to be carried in any direction from the reel. Price \$15.—Cincinnati Specialty Mfg. Co., Inc., Cincinnati, Ohio.

**APCA FAN-BELT GUIDE FOR FORDS**

This is a guide to keep the fan-belt on Fords from running off the pulleys. It consists of a rod bent into such a shape that the fingers prevent the belt from slipping sideways and the device is attached by slipping it under the head of one of the engine bolts. Price 15 cents.—Apco Mfg. Co., Providence, R. I.



### AMBU VOLTmeter FOR CADMIUM TESTS

This is a special voltmeter for making cadmium tests on storage batteries. The scale is such that it is possible to read to .05 volts. Special instructions accompany the voltmeter, giving full directions for its use with the cadmium test points. Price \$22.50 for voltmeter only, or \$25 for voltmeter and cadmium leads.—American Bureau of Engineering, Inc., 1018 South Wabash Avenue, Chicago.

### ANTHONY TIRE PUMP

This is a single-acting foot pump with large handle and gray iron foot brace of large area. The piston rod is 7/16 in. in diameter, cold rolled steel and the valve is of drawn brass with a metal check valve. The barrel-head cap is a heavy brass casting finished all over and threaded to fit the outside of the barrel and reamed to fit the piston rod. The barrel is of steel tubing and is threaded wrench tight into the foot base and then soldered. The hose is 27 in. long. The tire connection is a substantial slip-on lever locking device, which can be quickly and cleanly operated. Packed in cartons containing 1 doz. each. Price \$4 each.—Anthony Co., 138 West Avenue, Long Island City.

### UNITYPE METAL SIGNS

These are enameled metal signs with interchangeable letter units lithographed on metal. They are made either in the form of easels or signs to be put on the wall or outside the building. There are a number of horizontal grooves cut in the metal which forms the sign and the movable letters slide into these slots. Made in a variety of sizes and shapes, at prices ranging from \$4.90 to \$27.10.—W. L. Clark Co., 115-117 Nassau Street, New York City.

### BUFFINGTON FOLDING SEAT

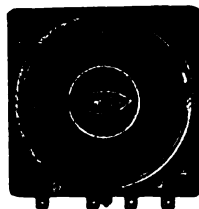
This is a folding seat to hang over the door of the car so that an extra passenger can be accommodated in the tonneau. The seat can be folded on the door and carried there if desired, or can be laid on the floor of the car. The side which comes against the outside of the door is upholstered, and the frame that comes in contact with the top of the door is wrapped with imitation leather.—C. A. Buffington & Co., Berkshire, N. Y.

### BAY STATE COMMERCIAL TIMER FOR FORDS

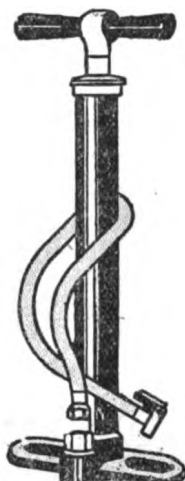
This is a timer for Fords in which the roller does not run around in a circular track with alternate sections of insulating material and metal, but instead touches four metal contacts one after the other, the arcing taking place at the bent part of the stationary contact, so that any

### Free Air Tests Tires

A blow-out in front of a garage isn't so bad as one out in the country. I have sold many a tube to owners who carelessly pump too much air into their tubes, at my free air station.—J. L. McMahon, Westport Garage Co., Kansas City.



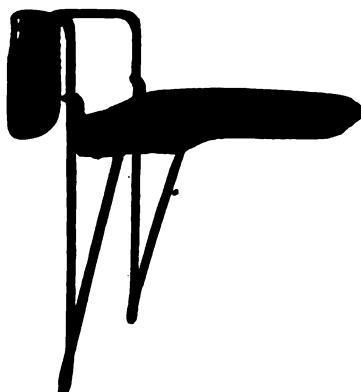
Ambu Voltmeter



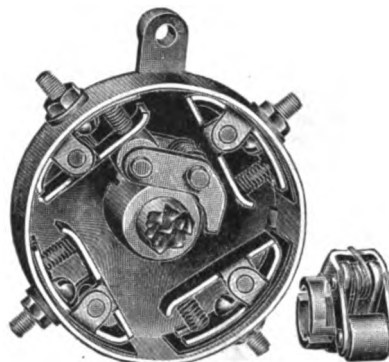
Anthony Pump



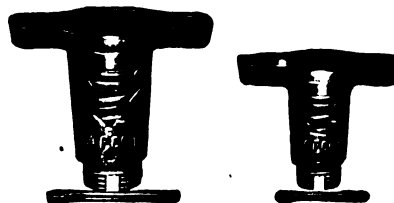
Unitype Metal Sign



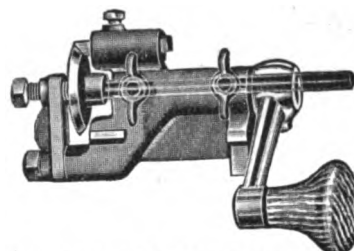
Buffington Folding Seat



Bay State Timer



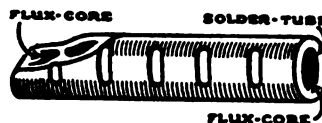
Apco Anti-Rattlers



Sioux Valve-Refacing Tool for Fords



Apco Spindle Anti-Rattler



Kester Acid-Core Solder



General Cord Tire

wear or burning will not affect the efficiency of the timer. The contacts are made of hardened steel. Both the brush and the contacts are yielding.—Bay State Pump Co., Boston.

### APCO ANTI-RATTLERS

These are caps which replace the regular caps on the radius rods and steering rods of the Ford and are provided with washers, springs and adjusting screws. The spring keeps the washer in contact with the ball at all times and the screw regulates the tension of the spring. A cotter pin holds the spring in position. Price 27 cents a pair for spring rods, 27 cents each for radius rods.—Apco Mfg. Co., Providence, R. I.

### SIOUX FORD & FORDSON VALVE REFACING TOOL

This is a valve refacing tool for Ford and Fordson valves. The valve is placed in the sleeve and the wing nuts tightened until it will just move around easily. The crank is then attached to the valve stem with the set-screw and the pressure of the valve face against the cutting edge is controlled by a set-screw on the end. The cutters are made of high-speed tungsten steel. Price \$1.50 for Fords, \$2 for Fordsons.—Albertson & Co., Sioux City, Iowa.

### APCO SPINDLE ANTI-RATTLERS FOR FORDS

These are spring steel devices clipped to the tie rod in such a way that the end of the spring rests against the steering arm and keeps the steering arm bushing against the bolt at all times so that rattle is prevented. It can be installed in a few minutes without the use of any tools. Price 40 cents.—Apco Mfg. Co., Providence, R. I.

### KESTER ACID-CORE WIRE SOLDER

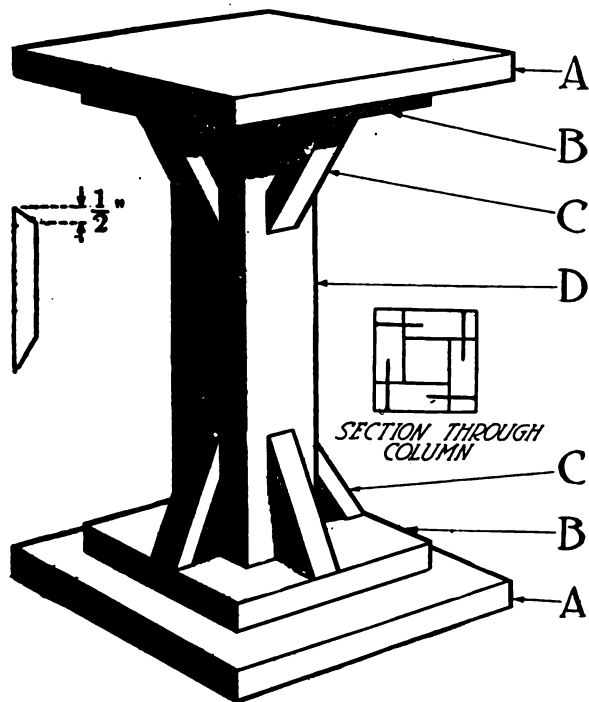
This is a solder wire with hollow cells, each cell of which is filled with an acid solder flux. No outside flux is used when soldering with this wire, and the separation between the cells prevents any excess of flux flowing out. The solder is made from Strait's tin and St. Joe lead. It can be used either with a soldering iron or a blow torch and will solder any metal except aluminum. Put up in 1 lb. coils and in cartons of 2, 5 and 10 lb. spools.—Chicago Solder Co., 218 North Union Avenue, Chicago.

### GENERAL CORD TIRE

This tire is built up by hand on the usual steel core, and is then transferred from a steel core to a specially constructed air bag. This air bag is inflated to the same pressure as when the tire is in service. For passenger car use the tire is made in both ribbed and non-skid treads, in sizes 32 x 3 1/2 to 37 x 5. Prices range from \$42.30 to \$87.40.—General Tire & Rubber Co., Akron, Ohio.



# Make These Window Fixtures



## The Tools Needed

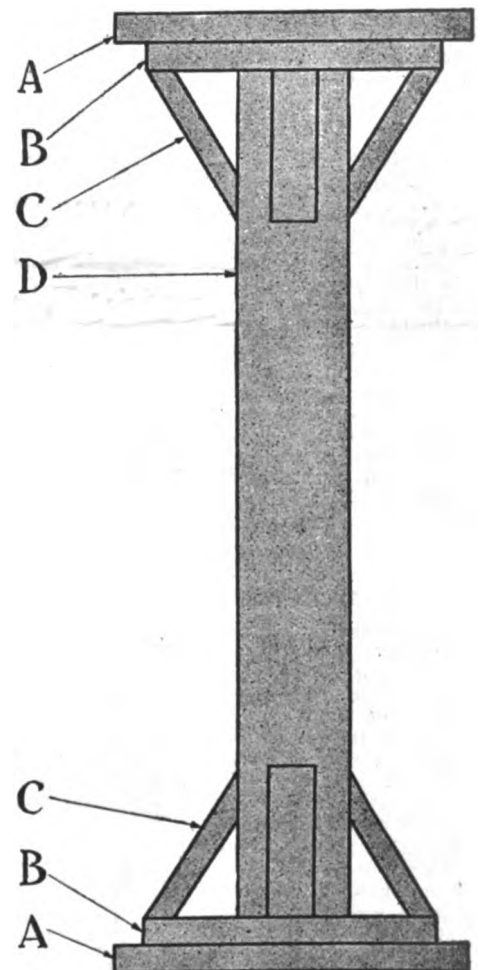
*Pencil*      *Hammer*  
*Square*      *Planes*  
*Saw*        *Finishing Nails*

For 12-in. PEDESTAL		
PART	NO. REQD.	SIZE
A	2	10" x 10" x $\frac{7}{8}$ "
B	2	8" x 8" x $\frac{7}{8}$ "
C	8	5" x $1\frac{1}{2}$ " x $\frac{7}{8}$ "
D	4	8 $\frac{1}{2}$ " x 2" x $\frac{7}{8}$ "

For 18-in. PEDESTAL		
PART	NO. REQD.	SIZE
A	2	10" x 10" x $\frac{7}{8}$ "
B	2	8" x 8" x $\frac{7}{8}$ "
C	8	5" x $1\frac{1}{2}$ " x $\frac{7}{8}$ "
D	4	14 $\frac{5}{8}$ " x 2" x $\frac{7}{8}$ "

For 24-in. PEDESTAL		
PART	NO. REQD.	SIZE
A	2	12" x 12" x $\frac{7}{8}$ "
B	2	10" x 10" x $\frac{7}{8}$ "
C	8	6" x $1\frac{1}{2}$ " x $\frac{7}{8}$ "
D	4	20 $\frac{1}{2}$ " x 3" x $\frac{7}{8}$ "

For 36-in. PEDESTAL		
PART	NO. REQD.	SIZE
A	2	12" x 12" x $\frac{7}{8}$ "
B	2	10" x 10" x $\frac{7}{8}$ "
C	8	6" x $1\frac{1}{2}$ " x $\frac{7}{8}$ "
D	4	32 $\frac{1}{2}$ " x 3" x $\frac{7}{8}$ "



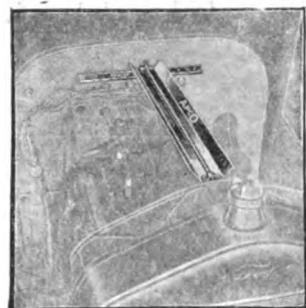
**P**ERHAPS you have around your garage or service station the boards required to make these stands. Look around and see if you haven't odds and ends of pine or oak or some wood suitable for this work. The work can be done in spare time, if you have any these days. If you haven't, the time is well spent anyway, for these fixtures are a window trimming necessity. The dimensions, "12-in. pedestal, 18-in. pedestal," etc., refer to the height. Make neat jobs and stain to look

like oak. In using these the shorter pedestals should be placed at the sides and front and the larger ones at the center and rear, as a general rule, although variations may be worked out. You should also have on hand some cheap draping material to drape over these. Look in any dry goods, shoe or department store window and note how pedestals such as these are used. See page 55 if you want to know what to do with these fixtures.



### APCO WATERSHED FOR FORDS

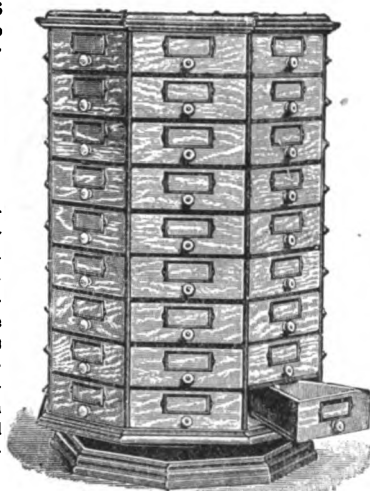
This is a device for preventing water from coming through the hood of the Ford car around the hinge. It consists of three metal troughs, one clamping to the rod directly under the hood hinge, one screwing to the dash over the coil terminal and the other on the inside of the dash over the coil box. The first one catches the water coming through the hood, the second catches it as it comes over the dash, and the other catches it as it drips between the body and the dash. It can be installed in a few minutes with a screwdriver and a pair of pliers. Price 75 cents.—Apco Mfg. Co., Providence, R. I.



Apco Watershed

### REVOLVING CASES

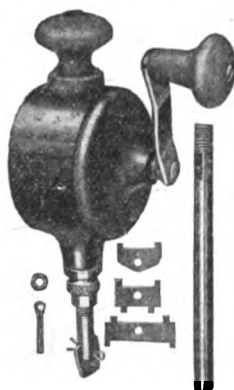
This is a revolving case with a number of small drawers suitable for holding bolts, nuts, screws or small parts. Made in several sizes, with from 72 to 96 drawers. Prices from \$33 to \$49.—American Bolt & Screw Case Co., Dayton, Ohio.



Revolving Screw Case

### LITTLE SIOUX VALVE GRINDER

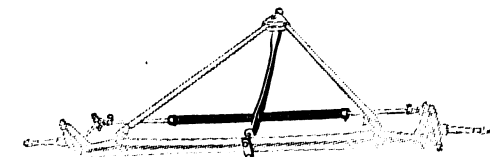
This is a small valve grinder by means of which a steady turn on the handle in one direction gives the valve a reciprocating or forward and back motion for grinding. At the same time, it automatically advances the valve on its seat by alternating a full turn in one direction with a three-quarter turn in the opposite direction. Ball bearings are used in the construction and the tool is balanced. Price \$3.50.—Albertson & Co., Sioux City, Iowa.



Little Sioux Valve Grinder

### AUTOMOBILE BLUE BOOKS FOR 1919

These are automobile road guides giving detailed running directions for every mile to any place that can be reached by automobile. Details as to the condition of roads, hotels, garages, ferries, steamships, points of interest, dangerous places, etc., are fully covered. There are

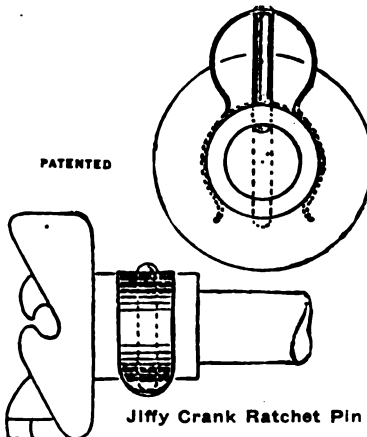


Hold 'Em in the Road

### Try This, Fellows!

I'm putting in a big display case in the front window, so car owners can look at the automotive equipment I handle while they are getting gas.—J. L. McMahon, Westport Garage Co., Kansas City.

PATENTED

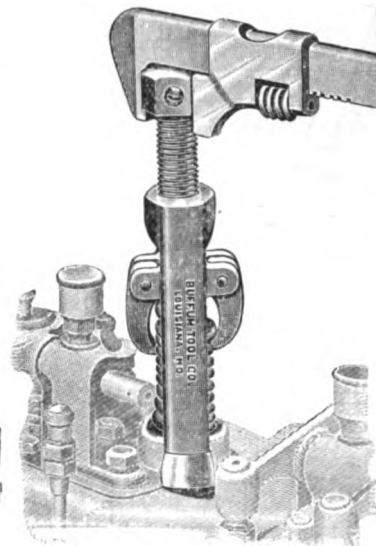


Jiffy Crank Ratchet Pin

nine volumes, each devoted to a particular section of the United States. Each volume averages about 1000 pages, printed on special India paper, with hundreds of maps and illustrations, and is bound in Royal Blue limp binding stamped in gold. All volumes are uniform in style, size and binding. Price \$3 per volume.—Automobile Blue Book Publishing Co., 243-249 West Thirty-ninth Street, New York City.

### JIFFY CRANK RATCHET PIN FOR FORDS

This is a pin for the Ford crank ratchet. One end of the pin is riveted to a clip spring which goes around the shank of the ratchet and prevents the pin from either going all the way through the hole or from coming out the other way.—American Auto Parts Co., 1319 L Street, N. W., Washington, D. C.



Buick Valve Remover

### BUFFUM BUICK VALVE REMOVER

This is a screwjack for removing the valve cages from Buick cars. It is so designed that the arm straddles the valve cage and two jaws catch the valve spring washer and when the screw is turned around with the handle the jaws are raised and the valve comes out. The device is light and compact and can be easily carried in the tool box. Price \$2.—Buffum Tool Co., Louisiana, Mo.

### APCO BREATHING PIPE

This is an auxiliary breather pipe for Fords and is intended to raise the oil filler opening so that it is more convenient to get at. A strainer is provided through which the oil must pass. It is made from castings, black enameled, and held in place with a heavy hook which passes around the timer-retaining bolt. The cover threads on to the top of this hook and the device can be installed in a few minutes with a pair of pliers. Price 55 cents.—Apco Mfg. Co., Providence, R. I.



Apco Breathing Pipe



Apco Gasoline Gage

### APCO GASOLINE GAGE FOR FORDS

This is a gasoline gage for Fords, the gage being located right in front of the plate forming the front of the driver's seat. The gasoline rises in the glass tube and a cork ball on top of the gasoline level makes the height of the liquid easy to see. There are no moving parts and the device is attached by cutting the gasoline line from the tank and inserting the two ends of the cut pipe through the tee. Made in either 1/4 or 5/16 in. size. Price \$1.90.—Apco Mfg. Co., Providence, R. I.



Automobile Blue Book



**CAMP DE LUXE**

This is a camping outfit consisting of a large canvas with all necessary poles, ropes and other apparatus to make a complete tent. It is made in various sizes, the largest being 20 x 20 ft., and having a space in the middle which can be used as a garage to hold two cars the size of a Ford and with four small bedrooms, a living room and a dining room. This is the No. 17. Price \$294.20 in balloon silk. Other outfits range in price down to \$146.76 for a three room and garage tent made of 8 oz. white cloth.—Auto Bed Camp Mfg. Co., 1504 Grand Avenue, Kansas City, Mo.

**APCO FAN GREASE CUP FOR FORDS**

This is a device for bringing the fan grease cup on the Ford into such a position that it can be more easily gotten at. The grease cup itself is more than double the size of the regular Ford grease cup in this position. A heavy leather washer prevents the grease from leaking. To apply, the old cup is removed and the new cup and elbow screwed in its place. Price 25 cents.—Apco Mfg. Co., Providence, R. I.

**DOVER FLEXO GASOLINE FUNNEL**

This is a 4-quart circular funnel with a 1-in. flexible tube 18 in. long attached to the body of the funnel with a screw. The flexible funnel can be bent into any desired shape to reach inaccessible tanks. The flexible tube unscrews and packs inside the funnel when not in use. It is equipped with a fine brass strainer, movable hoop to fasten chamois and the entire outfit is heavily copper plated.—Dover Stamping and Mfg. Co., 385 Putnam Avenue, Cambridge, Mass.

**FERNALD STEER-AIDS**

These are spring-wire devices which are placed with one end behind the steering knuckle and the other end snapped over the steering rod. This keeps the bushing tight against the bolt and prevents rattle. Suitable for Ford, Maxwell, Dodge and other lightweight cars. Price 50 cents per pair.—Fernald Mfg. Co., Inc., North East, Pa.

**SHALER FIVE-MINUTE VULCANIZER**

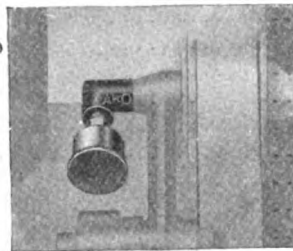
This is a tube vulcanizer consisting of a clamp, a vulcanizing pan and solid fuel. Each vulcanizer is supplied with 12 vulcanizing pans, six round for punctures and six oblong for tears. Enough solid fuel preparation is supplied to properly vulcanize when a match is applied to it. On the bottom of each pan is the rubber.—C. A. Shaler Co., Waupum, Wis.

**Sell Good Goods**

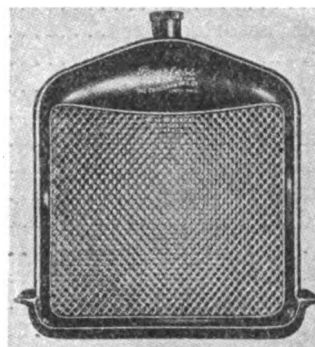
Never sell an article of automotive equipment that is not adapted to the car you sell, and that you are not willing to guarantee.—Frank R. Tate, president Tate Gillham Motor Car Co., St. Louis.



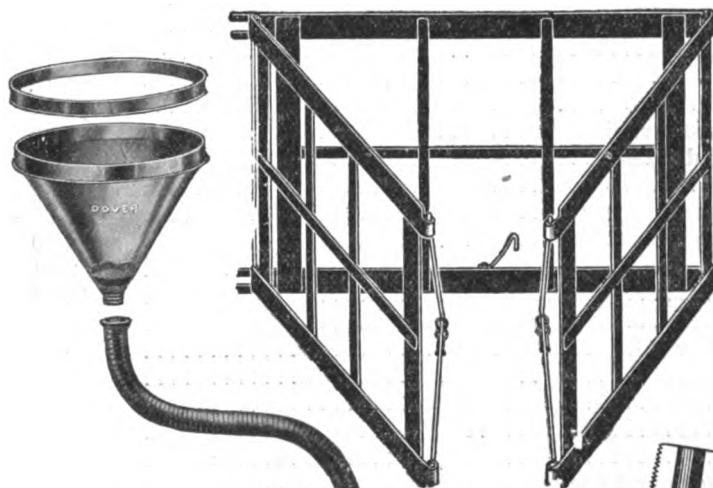
Camp De Luxe



Apco Fan Grease Cup

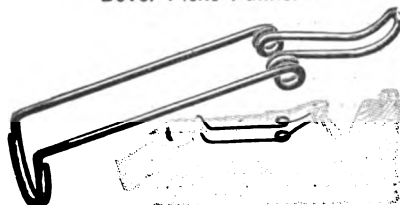


Peerless Radiator



Dover Flexo Funnel

Standard Luggage Carrier



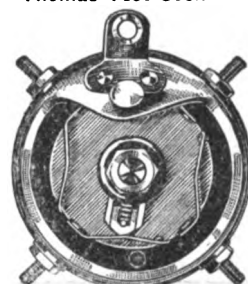
Fernald Steer-Aids



Thomas Test Cock



Shaler Vulcanizer



Thomas Timer

**CARBONOX**

This is a liquid preparation intended to be put in the cylinders and removes the carbon by attacking the charred oil that holds the carbon to the metal. The loose flakes of carbon can be blown out through the exhaust. The operation is completed in half an hour. Price 75 cents for a can containing sufficient for three six-cylinder engines.—Northwestern Chemical Co., Marietta, Ohio.

**NO. 11 PEERLESS RADIATOR FOR FORDS**

This is a honeycomb core radiator for 1917, 1918 and 1919 Fords. All parts in contact with water are of brass and the case is finished in black enamel. It will also fit the Ford one-ton truck. Weight, packed for shipping, 50 lbs. Price \$30.

The No. 10 Peerless Radiator is the same construction, but is a different shape and is for 1909 to 1916 Ford cars. Price \$30.—Corcoran Mfg. Co., Cincinnati, Ohio.

**STANDARD DETACHABLE LUGGAGE CARRIER**

This is a folding detachable luggage carrier which folds to a space of 10 x 15 x 1½ in. and may be put under the seat when not in use. No tools are required to attach or detach and it can be put on or taken off in a few minutes. The sides can be folded to hold almost any size or shape of luggage within the capacity of the device. Price \$4.—Rust Mfg. Co., 1224 Fourth Street, Boone, Iowa.

**THOMAS OIL TEST COCK**

This is an oil test cock for Fords or other cars using a test cock to test the level of the oil. The valve is ordinarily held shut by a spring and there is a hole in the plunger, so when the plunger is pulled out by means of a hook the oil will drip out if the oil level is up to the level of the cock. A wire may also be inserted through the cock and the other end of the wire fixed permanently, so that a pull on the wire opens the cock. Price 65 cents.—Thomas - Andrews Corp., Waukegan, Ill.

**THOMAS TIMER SHELL & BRUSH**

This is a timer in which contact is made by a brush wiping against springs which are peaked at the proper point to make the contact. Two springs act in making the contact and either may fail to work and the other will perform the function of both. Any part can be replaced in a few minutes with a pair of pliers. The contact surface is very short, so that the coil points are saved. Price \$1.50.—Thomas-Andrews Corp., Waukegan, Ill.

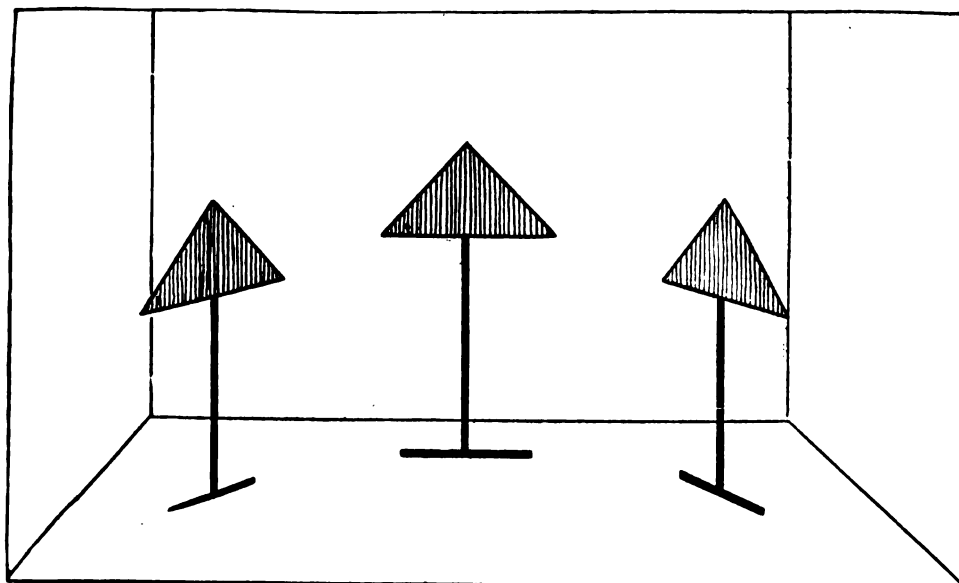


# YOU CAN MAKE \$263.94

*Put in This Stock of Automotive Equipment at a Cost of \$456.31. Sell it for \$720.25 and make 36% Per Cent Gross Profit*

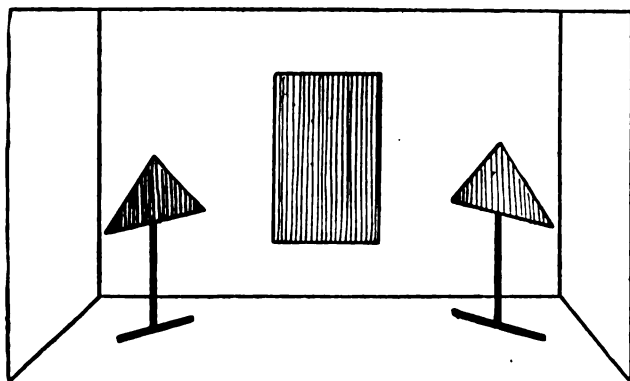
Article and Quantity	Cost	Selling Price	Profit
1 electric tail lamp.....	\$0.80	\$1.20	\$0.40
Assortment of electric lamp bulbs.....	15.92	24.50	8.58
6 battery hydrometers.....	4.00	6.00	2.00
Supply of magneto and coil parts.....	17.50	25.00	7.50
12 license brackets.....	6.00	9.00	3.00
3 tool boxes.....	7.50	11.25	3.75
1 jack.....	1.40	2.00	.60
2 jacks.....	6.30	9.00	2.70
1 foot pump.....	2.80	4.00	1.20
2 foot pumps.....	3.00	5.00	2.00
25 ft. 3/16-in. cloth covered pump hose.....	2.50	3.75	1.25
12 tubes of patching cement.....	.60	1.20	.60
12 cans gasoline patches.....	3.36	6.00	2.64
12 inside blowout patches, assorted sizes.....	4.68	7.80	3.12
12 cans tire talc powder.....	1.08	1.80	.72
100 tire valve cores.....	4.80	8.00	3.20
12 valve tools.....	2.00	3.00	1.00
12 1/4-lb. rolls of 3/4-in. tape.....	1.44	2.40	.96
2 small gasoline vulcanizers.....	2.00	3.00	1.00
18 pairs of skid chains, assorted sizes.....	21.43	32.15	10.72
6 pairs goggles, assorted.....	7.00	10.50	3.50
2 hand horns.....	5.67	8.50	2.83
50 assorted spark plugs.....	28.50	50.00	21.50
50 ft. magneto cable.....	5.00	10.00	5.00
50 ft. primary cable.....	2.50	5.00	2.50
100 ft. lamp wire.....	3.50	5.00	1.50
12 lamp connectors, plugs and sockets.....	1.80	3.00	1.20
3 switches.....	1.08	1.80	.72
25 assorted fuses.....	4.95	8.25	3.30
25 assorted spring clips.....	8.75	12.50	3.75
100 lb. bale of waste.....	27.00	35.00	8.00
9 pieces radiator hose, assorted sizes.....	3.90	5.85	1.95
24 hose clamps, assorted sizes.....	1.73	2.88	1.15
5 lb. brake-band rivets.....	3.75	7.50	3.75
Brake band lining, assorted sizes.....	60.00	100.00	40.00
Copper-asbestos gaskets, assorted.....	6.00	12.00	6.00
12 grease cups.....	2.31	3.30	.99
6 grease guns.....	12.60	18.90	6.30
1 bbl. lubricating oil.....	27.00	45.00	18.00
10 1-gal. cans lubricating oil.....	8.10	13.50	5.40
6 5-lb. cans grease.....	4.80	6.75	1.95
6 pints body polish.....	2.16	3.60	1.44
6 pints metal polish.....	2.70	3.60	.90
3 pints neatsfoot oil.....	.94	1.35	.41
1 doz. cans radiator compound for leaks.....	6.00	9.00	3.00
24 pairs pliers.....	7.20	10.80	3.60
12 tire pressure gages.....	12.60	18.00	5.40
12 adjustable wrenches.....	8.82	12.60	3.78
12 assorted screwdrivers.....	3.24	5.40	2.16
6 hammers.....	6.00	10.00	4.00
Spring washers, machine screws, nuts, cotter pins, taper pins, etc., ..	20.00	40.00	20.00
2 fire extinguishers.....	15.00	20.00	5.00
2 spot lights.....	9.67	14.50	4.83
4 runningboard mats.....	3.67	5.50	1.83
6 electric bulb boxes.....	5.48	8.22	2.74
6 windshield cleaners.....	6.00	9.00	3.00
12 cans carbon remover.....	8.00	12.00	4.00
36 cans hand soap.....	3.78	5.40	1.62
	<b>\$456.31</b>	<b>\$720.25</b>	<b>\$263.94</b>



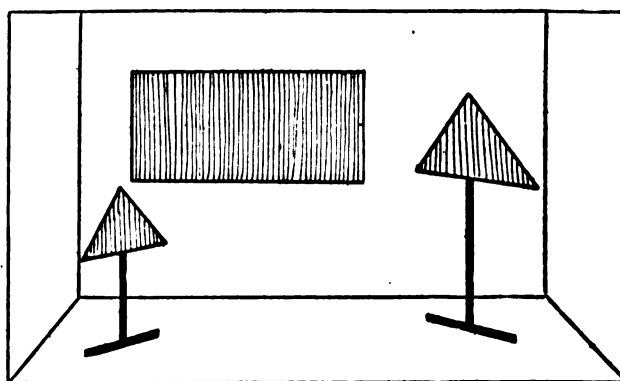


# 5 Ways to Make Window Displays

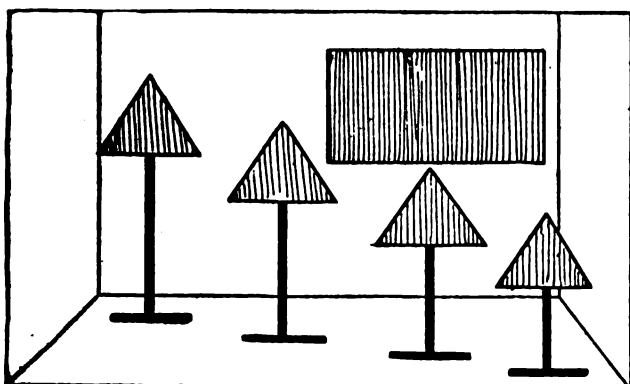
**ORDINARY SYMMETRICAL TYPE**—Put big masses or objects as shown and fill in open spaces with smaller objects, but do not crowd. Pedestals need or need not be used. They are needed if the large objects are such as have to be elevated to attain the proper height



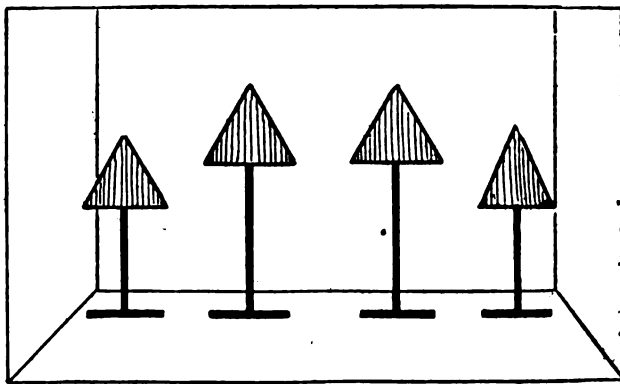
**SYMMETRICAL TYPE** with card in center background instead of merchandise. These cards should be colored to harmonize with setting, or contrast as the case may be



**OCCULT BALANCE**—Especially desirable with lower objects near the "door side" of the window. The background is occupied by a large card or sign, of form and color to fit



**OCCULT BALANCE**—For a long window. This is similar to the one at the right above and is desirable in case there is a door at the right end of the window



**MONOTONY**—Desirable in long windows and may be used where there is a door at either end. In setting this the trimmer may build each unit around related groups of merchandise



**AUTO CAMP TRAILER**

This is a two-wheel trailer provided with all the necessary equipment to erect a tent around the trailer, using parts of the trailer as floor, bed frames, etc. The trailer attaches to the car and can be pulled at any speed desired. The outfit can be set up in a few minutes and provides full equipment for sleeping and living with two large double beds with springs, mattresses and pillows. The equipment includes ice box, gasoline stove, table and electric light outfit. Prices \$235 to \$250, depending on tire equipment.—Auto Camp Equipment Co., Saginaw, Mich.

**DOVER FLEXO COMBINATION MEASURE & FUNNEL**

This is a combined liquid measure and funnel. It has a spout 8 in. long made of flexible tubing. This flexible tubing is easily detached from the spout by unscrewing it and it can then be put in the measure to take up less space. The flexible spout enables the funnel to reach any oil hole or tank in an inaccessible position. — Dover Stamping & Mfg. Co., 385 Putnam Avenue, Cambridge, Mass.

**UNIVERSAL FOOT ACCELERATOR FOR FORDS**

This is a foot accelerator which is installed on the floor board of the Ford car and does not interfere with the operation of hand throttle. A light foot rest accompanies each outfit and this is adjustable in height. The finish is in black enamel and each outfit is packed in an individual carton with complete installation instructions. Device can be installed in less than half an hour. Price \$1.50.—Metal Auto Parts, 626-628 E. Locust Street, Des Moines, Iowa.

**THOMAS PRIMER ELEVATOR FOR FORDS**

This is a primer elevator which lifts the primer several inches and also changes it from vertical to horizontal.—Thomas-Andrews Corp., Waukegan, Ill.

**DOVER TWO-IN-ONE OFFSET OIL FUNNEL**

This is a funnel with a projecting spout which comes out of the bottom at an angle and is 2¼ in. long. A removable spout 8 in. long has a 3-in. offset. This spout can be attached to either end of the tube on the funnel and therefore two angles can be obtained by reversing the spout. Diameter 6 in. Made of plain tin.—Dover Stamping & Mfg. Co., 385 Putnam Avenue, Cambridge, Mass.

**U-V SUBCASING**

This is a subcasing of extra thickness which goes between the casing and the tube, extending beyond the bead to prevent

**Get Shop Men with You**

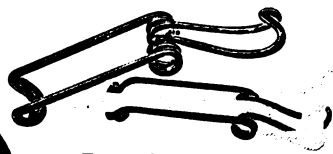
Some of our very best equipment sales have been made through unobtrusive suggestions made by men in the shop. When a car comes in they casually suggest a starter, or this or that, or different wheels. Of course they never urge it. But they often win.—W. L. Johnson, president, Johnson Automobile Co., St. Louis.



Auto Camp Trailer



Dover Flexo Measure and Funnel



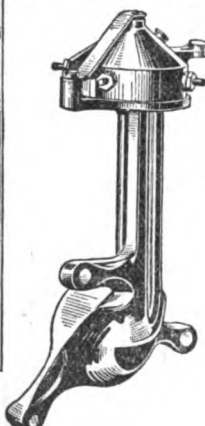
Fernald B-R-A-T-S



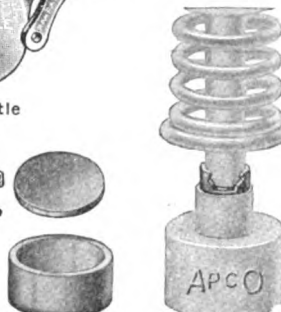
Jericho Pet Whistle



Universal Foot Accelerator



Thomas Timer Elevator



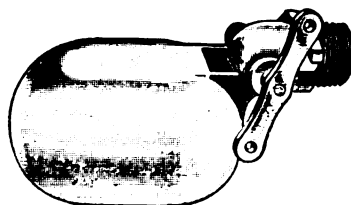
Apco Valve Adjusters



Sun-Ray Lens



Dover Offset Funnel



Jericho Junior Signal

rim cuts and having an extra thickness on the tread to prevent punctures. It is intended to be used in connection with worn out casings to give them more mileage until worn through. Made in sizes from 30 x 3 to 37 x 5, price ranging from \$12.50 to \$22.—Universal Tire and Rubber Co., 474-476 Mills Building, San Francisco, Cal.

**FERNALD B-R-A-T-S**

These are spring devices to prevent rattle in the brake rods on light cars, such as Ford, Maxwell and Dodge. They come in sets of four, two being used on each brake rod. At the rear of the rod one of the devices slips over the hub brake expander lever, and the other over the rod. At the front, one end slips over the brake lever, the other over the rod. Made of tempered steel wire with baked Japan finish. Price 50 cents per set of four.—Fernald Mfg. Co., North East, Pa.

**APCO VALVE ADJUSTERS**

These are valve adjusters for Ford cars and are to lengthen the valve stem when there is too much clearance. They consist of hardened steel caps which slip on the end of the valve stems and a number of thin steel disks which are used to fill up the gaps. The installation can be made without special tools. Price 30 cents per set.—Apco Mfg. Co., Providence, R. I.

**JERICO PET WHISTLE**

This is a whistle operated by the explosion of the engine. The lower end is threaded and it is screwed into the priming plug hole and operated by means of a lever which is in turn operated by a cord from the driver's seat. Price \$2.—Randall-Faichney Co., Inc., 76 Atherton Street, Boston.

**SUN-RAY LENS**

This is a headlight lens to give diffusion, side light and projection. The prisms are formed on the inside of the glass, so that the outside is smooth and can easily be washed and kept clean. Made in all diameters to fit all model cars. Price \$1.75 per pair.—Prismolite Co., 74 East Gay Street, Columbus, Ohio.

**JERICO JUNIOR SIGNAL**

This is an exhaust operated signal which is attached either to the exhaust manifold or to the exhaust pipe. It is screwed directly into either one of these and there are no couplings. There is only one lever and this either shuts the signal off or turns it on by means of a cord from the driver's seat. Price \$2.—Randall-Faichney Co., Inc., 76 Atherton Street, Boston.



### ***Demonstrates Last***

A good policy, we have found, when working with a prospect who has in mind several cars and who drops the information that they are going to be demonstrated to him, is to make a point of being the very last to demonstrate. We know our car runs so smoothly that it is sure to make a good impression on the prospect and last impressions are lasting in such cases. He will remember that ride after the others have faded.—E. W. MacQuivey, sales manager, Parker Motor Sales Co., Philadelphia.

### ***Teach Them to Drive***

It surely pays to take pains in teaching your new customers to drive properly. This is more of an important point in the case of a first car owner than generally seems to be recognized and it has considerable to do with the success of an agency or distributing center. Here's how it works out: The good car owner isn't the one who is continually having accidents at the beginning of his career as a driver. That's the time when it is expensive for the house that sold him his car. The man who is continually bringing back his car is a costly customer and isn't a good advertisement; besides, he takes up much time. Teach 'em how to drive right.—E. W. MacQuivey, sales manager, Parker Motor Sales Co., Philadelphia.

### ***Must Wait for "Deal"***

When a prospect pleads that he has to wait until some financial transaction is completed before closing the deal for a new car we have little to say to refute it if it is a private business matter which we know nothing about. But if he pleads general business conditions we know as much about them as he does and we try to know a little more, so we can show him where general financial and business conditions are O.K.—O. C. Belt, Belt-Franklin Auto Co., Columbus, Ohio.

### ***No Cars in Storage***

When a prospect argues that there is a liability of lower prices on automobiles, we show him that ordinarily there are from 1000 to 1500 cars in storage in Columbus at this time of the year. This year there are none in storage, and thus when the demand is greater than the supply there cannot be any reduction in price.—Wilbur Winders, president, Winders Motor Car Co., Columbus, Ohio.

## **SELL CARS**

### ***Make Money in 1919***

### ***Make More in 1920***

*More car sales ideas on pages*  
16-17-40-41-57

### ***Talk New Cars First***

"We can probably get together on a right valuation for your old car, but let us talk of the new car," is what we say to the man who has a used car to trade in on a new job. We first try to get him stuck on the new car and then we find that there is not much trouble in fixing a price for the used car. If he is in the notion of buying he will not be so critical on the price of his present car.—Oscar Lear, president Oscar Lear Motor Co., Columbus, Ohio.

### ***Why Ours Is Cheaper***

Of course a man or woman does not look at our car without having an idea of spending \$1500 or \$1750 for an automobile. Then if he argues that another make of car is cheaper we show him where it is really economy to purchase our car, especially because of cheaper cost of operation and less rapid depreciation.—O. C. Belt, Belt-Franklin Auto Co., Columbus, O.

### ***Avoids Cost Arguments***

We try to keep out of the cost argument. When a man buys an automobile we know it is going to cost him something to operate it and we do not want to bring that to his mind. We do not know how far the car is going to be run or how he is going to use it, thus we cannot tell anything about the actual cost of operation.—Ira P. Madden, president, Capital Motor Car Co., Columbus, Ohio.

### ***Spend!***

Our argument to a prospect that urges a business depression as against buying a motor car at this time is that the automobile factories did not have orders when they started to manufacture motor cars after the Federal government canceled war orders. If the factories had waited for orders times would have been much worse. Now it is up to all of us to spend our money and go ahead in order to bring back normal conditions as rapidly as possible.—Ira P. Mad-

den, president, Capital Motor Car Co., Columbus, Ohio.

### ***Business Is Good***

We have a good line of argument to refute the statement that business conditions are not good. We show the prospect that more cars are moving than ever before and that business conditions are generally healthy. We show him that there is no real business depression at this time.—Wilbur Winders, president, Winders Motor Car Co., Columbus, Ohio.

### ***Don't Spite Yourself***

As to the likelihood of a reduction in the price of automobiles, we simply show the prospect that labor is still high and will continue to be high as long as the cost of living is up. Thus, there cannot be much of a decline within the next six or eight months and it would be foolish for a man to wait that long in order to save \$100 on the cost of a car when he might be using it all of the time and get many times that amount of use out of the car.—Ira P. Madden, Capital Motor Car Co., Columbus, Ohio.

### ***Meeting Price Talk***

We have found our best method of meet price arguments are to ignore it. If pushed upon it we say: "You doubtless are profiting by war conditions. Would be the one to force labor back to pre-war wages while living still is high?"—Al Weber, sales manager, Weber Implement & Auto Co., St. Louis.

### ***"For the Returned Soldier"***

Advertisements setting forth roadsters and the car suitable for returned soldiers brought us much business. There is much to say along this line.—H. Milton Koenig, publicity manager, Weber Implement & Auto Co., St. Louis.

### ***Order Blanks for Pads***

What we use is the order blank and not scratch pads on which to do figuring. We do not permit our salesmen to have any scratch pads for figuring. When a man is interested in the car we go after him with the order, as he is not going to take the order blank out of our pocket and fill it out. Our salesmen do the figuring necessary in our office and when he meets a prospect he is ready with the blank filled out.—Ralph Wilson, manager, Columbus Cadillac Co., Columbus, Ohio.



### APCO CRANK CASE ARM FOR FORDS

This is a crank case arm for Fords, by means of which the rear end of the crank case on the Ford engine can be hung to the frame by bolting the arm in place and without the necessity of taking down the engine and riveting a new arm. Price \$1.15.—Apco Mfg. Co., Providence, R. I.

### GRAY-DAVIS STARTING & LIGHTING SYSTEM FOR FORDS

This is a double unit starting and lighting system for Fords consisting of a self-regulating dynamo, starting motor, battery and battery box, lighting and starting switches, brackets, chain, wiring and all items necessary to make the installation. The dynamo is driven from a sprocket on the crankshaft by a silent chain. A Bendix type of drive is used for meshing the starting motor with the gear that turns the engine. The starting switch is under the heel board and all wires and cables are cut the proper length and supplied with supporting clips and terminals to facilitate the installation. The only part removed from the engine to make the installation is the pulley on the crankshaft which is replaced by a sprocket. Price \$100.—Gray & Davis, Boston.

### DOVER FLEXO OIL FUNNEL

This is a 1-pint oil funnel with a  $\frac{1}{4}$ -in. flexible tube 8 in. long screwed to the lower end. The tube is removable and can be packed inside the funnel when not in use. The tube is so flexible that it will reach any oil filler hole on any make of car.—Dover Stamping & Mfg. Co., 385 Putnam Avenue, Cambridge, Mass.

### APCO ENERGIZER FOR FORDS

This is a device for feeding moist air to the intake manifold. It consists of a jar and the proper connections to pipe the air to the manifold. Price \$1.50.—Apco Mfg. Co., Providence, R. I.

### B-LINE BOSTON COMBINATION OIL & GREASE GUN

This is a combination oil and grease gun. The screw is operated by a crank which allows very rapid operation. The barrel is extra heavy seamless brass tubing and the device can be converted from an oil gun to a grease gun by turning a catch nut. The equipment consists of the gun, spouts, plugs and grease filler. Price \$4, \$4.50 and \$5, depending on size.—Randall-Faichney Co., Inc., 76 Atherton Street, Boston.

### UTILITY BLACK AIR-DRYING ENAMEL

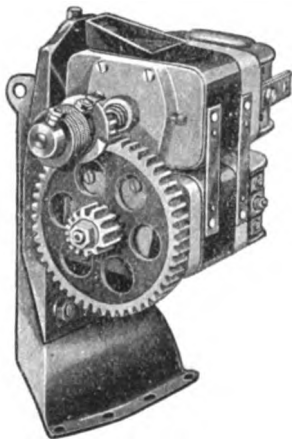
This is an air-drying enamel for touching up scratches on

### Add 'Em NOW!

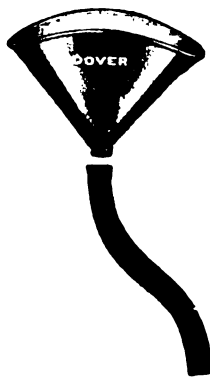
When I was in the motor car selling I learned that the equipment business was started easiest and best when selling the car. Put an extra tire in the rack, add bumpers and anything else that may suggest itself. Say to the customer, "The price of this car is \$1,700. That one is \$1,600. You will want these things next week. Why not buy now?"—Harry G. Moock, business manager, N. A. D. A., St. Louis.



Apco Crankcase Arm



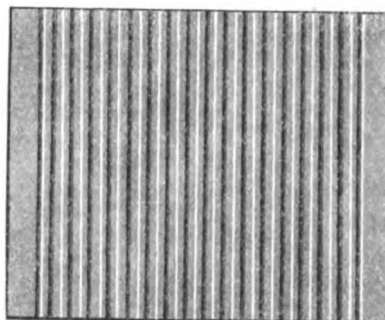
Gray & Davis System



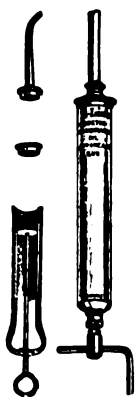
Dover Flexo Oil Funnel



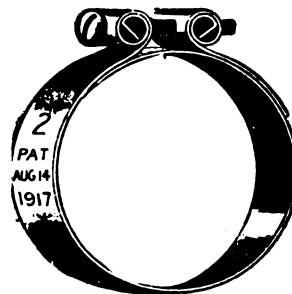
Apco Energizer



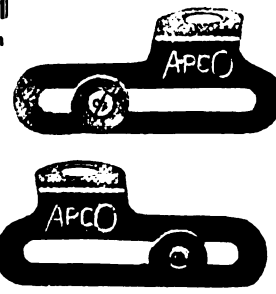
Ferry-Mark Battery Separator



B-Line Gun



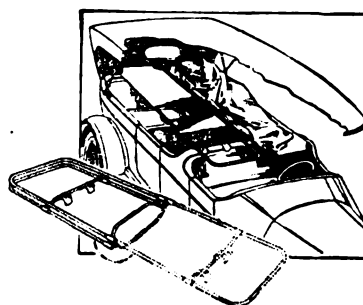
Lock-Roll Clamp



Apco Front License Brackets



Universal Pet Cock Opener



Any Kar Auto-Kot

fenders, engines, or other parts of the car. It dries hard and glossy in one hour. Price 60 cents for  $\frac{1}{4}$  pt. cans, \$1 for pint cans.—Northwestern Chemical Co., Marietta, Ohio.

### FERRY-MARK BATTERY SEPARATORS

These are battery separators made of treated wood. Made in sizes from  $4\frac{1}{4} \times 5\frac{1}{4}$  in. to  $5\frac{13}{16} \times 12$  in. Thicknesses vary from  $\frac{5}{64}$  to  $\frac{7}{64}$  in. These separators are treated and are furnished moist ready for use. Dry separators of cherry are also obtainable and these require 24 hours' treatment before use. Price range from \$16 to \$44 per thousand.—Ferry-Mark Mfg. Co., 2117-2123 South Fourth Street, St. Louis, Mo.

### LOCK-ROLL HOSE CLAMP

This is a hose clamp made of sheet metal. The clamp is tightened by means of a machine screw which passes through the two rolled ends of the clamp, and the construction of the roll is such that spring tension automatically keeps the screw tight and no nut or lock-nut is needed.—Federal Tin Co., Charles & Barre Streets, Baltimore, Md.

### APCO FRONT LICENSE BRACKETS FOR FORDS

These brackets are stamped from steel and are attached by removing the front nuts of the front spring clips and slipping the devices on, then replacing the nuts. Furnished complete with bolts, nuts and leather washers. Price 15 cents.—Apco Mfg. Co., Providence, R. I.

### UNIVERSAL PET-COCK OPENER

This is a tool to open and close or clean the oil pet-cocks of the Ford engine. The end of the rod is looped in such a way that it catches the handle of the pet-cock. If the pet-cock is clogged up the needle can be inserted and it is long enough to run clear through the cock and into the transmission case. The dealer's name can be stamped on the handle.—Metal Auto Parts Co., 626-628 E. Locust Street, Des Moines, Iowa.

### ANY KAR AUTO-KOT

One or two of these kots will fit into any five or seven passenger automobile. Each kot will accommodate one person, and when the curtains are drawn they are protected from the weather. The kot rests on the top of the backs of the front and rear seats, is made of  $\frac{1}{2}$  in. galvanized tubing and is 6 ft. long by 2 ft. wide. It is hinged in the middle and folds to a small package which can be easily carried. Finished with heavy ducking laced on the under side. Price \$12; \$15 with legs attached.—Peoria Auto-Kot Co., Peoria, Ill.



# Push the Rural Motor Express

MAKE MONEY IN 1919



MAKE MORE IN 1920



By Permission of New York Tribune.

**T**HE Rural Motor Express is a coming big thing for YOU and for the WHOLE COUNTRY. You should get back of the movement and boost it if for no other reason than that it will sell motor trucks for you and will stimulate the truck business generally.

The Rural Motor Express is the old city to-country stage line operated with a motor truck. The Express runs from the city, out through the country, takes city goods to the farmer, picks up farm produce and takes it to the city, and stops all along the route to pick up and drop goods. It is just like a railroad express company except that it operates over a comparatively short section of country highway.

Your part consists more in promoting the organization of these lines and in interesting other people in them than it does in running them yourself. Select what looks to you like a good route, or routes, select a man or men with money to back the proposition, get them to start the line and **SELL THEM A TRUCK OR TRUCKS.**

These trucks will result in other rural lines and **EVERY ONE OF YOUR TRUCKS THAT RUNS IN THIS SERVICE MEANS THAT THE FARMERS ALONG THAT ROUTE ARE SEEING YOUR TRUCKS AND ARE DAY BY DAY BECOMING PROSPECTS.** There is no better ad for a truck than a truck in service.

Push the Rural Motor Express.



### PLA-SAFE BRAKE FOR FORDS

This is a large external brake operating on the outside of the rear hub drum. It is lined with asbestos and is adjustable by means of a bolt and nut. It can be installed in less than one hour and no machine work or drilling is necessary. The brake mechanism is held in place by means of the two stud bolts that go through the axle housing holding the internal brake. Price \$10.—Pla-Safe Co., Brookville, Pa.

### MASTER GARAGE PUMP

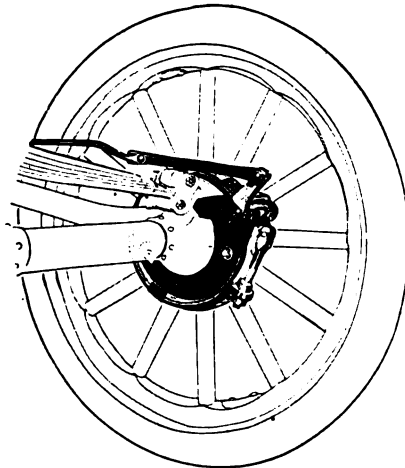
This is an air compressing outfit complete in one unit with electric motor, two stage pumps and all the necessary equipment. The pump has two cylinders and the machine will deliver  $2\frac{1}{2}$  cu. ft. of free air per minute. The pistons are of steel, ground to size and lapped into the cylinders and no rubber or leather packing arrangements are used in the construction. No tank is used and the air is pumped directly into the tire. The equipment includes 20 ft. of electric cord and 20 ft. of heavy wire-bound rubber air hose with tire pressure gage attached. Made in either stationary type or portable type with castors. Price with direct current motor \$150. Other motors for other kinds of currents and various voltages supplied at slight variation in price.—Hartford Machine Screw Co., Hartford, Conn.

### UNIVERSAL RADIATOR SHUTTER

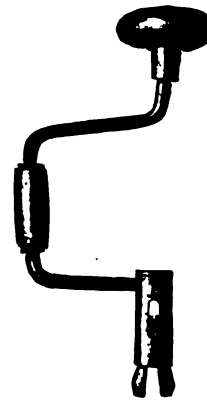
This radiator shutter is a stamped sheet metal device made up of a number of movable shutters tied in a frame of such size as to completely fill the opening in the outer shell of the radiator. A flange is snugly held between the outer shell and the core of the radiator. The blades are controlled from the steering column of the car and are so designed that when in a closed position will completely shut off the passage of air. When open the circulation is not interfered with. The installation is made without special tools and without boring any holes or doing any machine work on the radiator. Made in stock sizes for Ford, Maxwell, Dodge, Buick, Reo, Chalmers and Nash cars at prices from \$7.50 to \$18.—Metal Auto Parts Co., 626-628 Locust Street, Des Moines, Iowa.

### Keep Window Up to Date

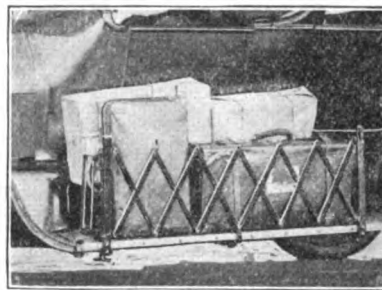
A window display is a necessity, but it must be looked after as carefully as a dry goods store window downtown. Take a glance at mine. It is changed every week. If you are out to buy a loaf of bread and come to a bakery where the window is a mixture of bread, flies and dirt, you pass on to one where the window is clean. The same rule is just as important in our line.—J. W. Prather, parts manager, Maxwell, Chalmers and Winton, Kansas City.



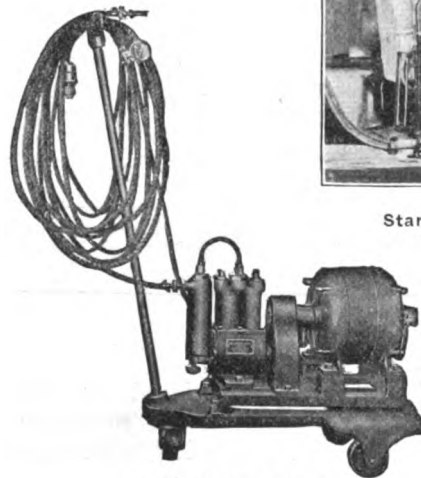
Pla-Safe Brake



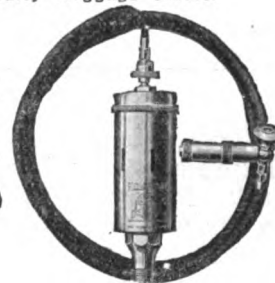
Utility Rim Wrench



Standley Luggage Carrier



Master Garage Pump



Utility Tire Pump



Universal Radiator Shutter



General Jumbo Tire

### CLOVER GRINDING COMPOUND

This is a grinding compound consisting of an abrasive powder mixed with a grease binder. Made in a variety of different grades of fineness for different automobile purposes. Put up in several sized cans and also in duplex cans, one side containing coarse compound and the other containing fine compound. Price for 4 oz. Duplex can 45 cents.—Clover Mfg. Co., Norwalk, Conn.

### UTILITY UNIVERSAL RIM WRENCH

This is a universal rim wrench which automatically fits every size nut on every demountable rim. It is made in the form of a brace and the jaws are tapered and slide in a sleeve in the lower part of the brace so that when pressure is put on the handle the jaws slide in and grip the nut. Finished in nickel and black enamel and is short enough to go into the tool box without folding. Price \$1.75.—Hill Pump Valve Co., Archer Avenue, Canal and Twenty-third Streets, Chicago.

### STANDLEY ADJUSTABLE LUGGAGE CARRIER

This is an adjustable luggage carrier which can be fitted to any running board to carry excess baggage. The length can be changed from 10 to 40 in. It is not necessary to drill holes in the running board or mar the car and the device can be applied to any make or type of car. Price \$4.—Standley Skid Chain Co., Boone, Iowa.

### UTILITY TIRE PUMP

This is a spark plug pump equipped with a combination pressure gage and safety valve. The pump is screwed into one of the spark plug holes and the cylinder pressure operates the pump, pumping clean air through the hose. Pressure gage is set to the pressure recommended for the tire and when the pressure reaches the correct degree the inflation automatically stops and the safety gage emits a sharp piercing warning blast until removed. Fits all makes of cars except Fords. Price \$12. Utility Junior for Fords, \$7.50.—Hill Pump Valve Co., Archer Avenue, Canal and Twenty-third Streets, Chicago.

### GENERAL JUMBO TIRE

This is a special oversize tire for Fords, Maxwells, Chevrolets and all cars equipped with 30 x  $3\frac{1}{2}$  clincher rims. Price \$31.90.—General Tire & Rubber Co., Akron, Ohio.



### RONSON ALLIGATOR WRENCH

This tool combines a large number of tools in one place. The eleven tools are screw driver, alligator jaw, leaf-spring oiler, bottle opener, cotter-pin puller,  $\frac{5}{16}$ -in. wrench,  $\frac{3}{8}$ -in. wrench,  $\frac{9}{16}$ -in. wrench,  $\frac{7}{8}$ -in. hexagon spark-plug wrench,  $\frac{5}{16} \times 32$  die,  $\frac{1}{2} \times 26$  die. These dies are for valves and stems. The length is  $8\frac{1}{2}$  in., width  $2\frac{1}{4}$  in. Price 50 cents.—Art Metal Works, Inc., 7-15 Mulberry Street, Newark, N. J.

### AUTO NEW-MATIC PATCHER

This is a tube patcher in which the injured tube is placed around the container and firmly held by the clamp which is provided for that purpose. This allows the tube to lie smoothly on the cylinder surface and makes the patching easy on any size cut. There is an emery top on the container which is used to clean and roughen the cut. The cement is then applied and the patch placed on top.—Locktite Patch Co., Detroit.

### RADIATOR SUPPORT FOR FORDS

This is a radiator support for Ford cars and is installed by removing the radiator, placing the support in position, placing the radiator on top of this and putting the nuts on the studs. It supports the radiator and prevents the side lugs from breaking off. It is intended either to protect a new radiator or to extend the life of an old one already weakened or broken. It is made of stamped steel, enameled black. Weight 1 lb. Price 50 cents.—Gahm-McCormick Co., 802 East Main Street, Streator, Ill.

### RATTLE TRAPS

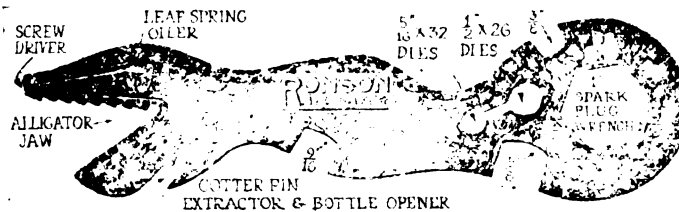
This is a device made of spring wire and intended to be placed between the tie-rod and the steering arm on Fords and other light cars to prevent rattle between these parts when the bushings and bolts become worn. Packed in attractive cartons containing one dozen pair. Price 75 cents per pair.—Simmons Mfg. Co., 3405 Perkins Avenue, Cleveland.

### AJAX HOOK-ON BOOT

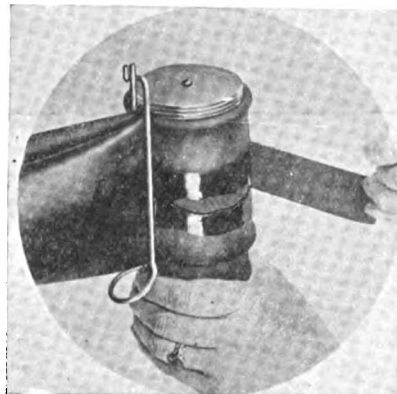
This is a hook-on boot with hooks for either clincher or straight side tires. It is intended to be used for unusually large cuts or blowouts. The tread is tough and the body is made strong and is constructed of impregnated fabric. Furnished in sizes from 3 to  $5\frac{1}{2}$  in. Packed one in a carton.—Ajax Rubber Co., New York City.

### Customers Like It

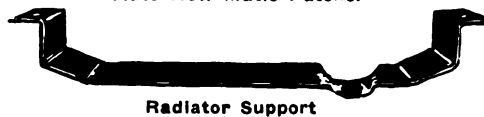
What caused me to put in my automotive department? It was this way. This is becoming an automobile section of the city. Men came to me to purchase cars. Why should I send them downtown for the necessary small things. It is a convenience to the buyer, and I make money out of it.—J. W. Prather, parts manager, Maxwell, Chalmers and Winton, Kansas City.



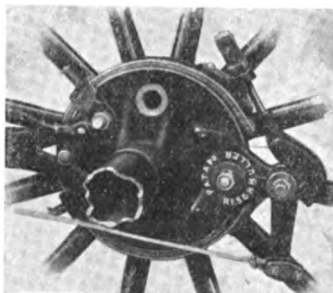
Ronson Alligator Wrench



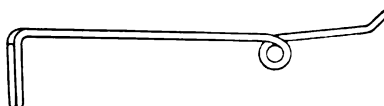
Auto New-Matic Patcher



Radiator Support



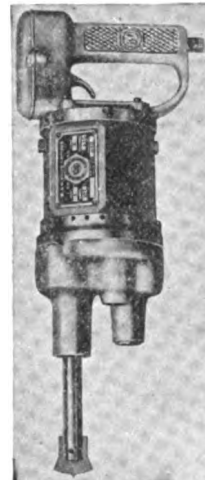
Ideal Contracting Brake



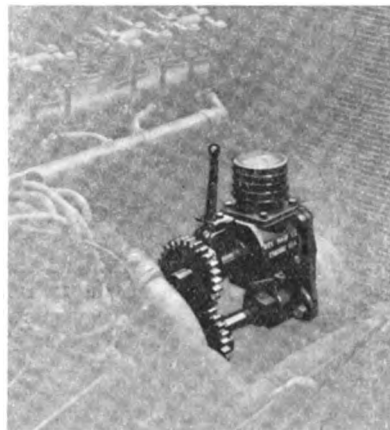
Rattle Trap



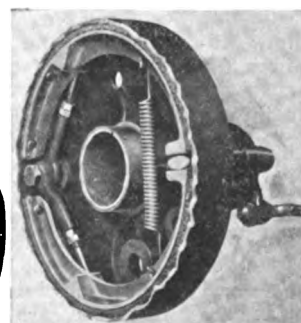
Ajax Hook-On-Boot



B. & D. Valve Grinder



Rex Valveless Pump



Ideal Expanding Brake

### BLACK & DECKER ELECTRIC VALVE GRINDER.

This is a motor-driven valve grinder with an oscillating spindle which has a long steady sweep similar to the movement obtained by hand grinding. The pistol grip and trigger switch allow easy handling and control. The motor is  $\frac{1}{16}$  hp., and is air cooled. It will operate on either alternating or direct current, and can be obtained for voltages of 110, 220 or 32 volts. The motor and reciprocating mechanism are completely enclosed and the grinding spindle runs on ball bearings. Bits are provided to fit different forms of valve heads. Price \$45.—Black & Decker Co., 105-115 South Calvert Street, Baltimore.

### IDEAL CONTRACTING BRAKES FOR FORDS

This is a contracting band brake to operate on the Ford rear wheel drum. The lining is asbestos, and this brake may be used in conjunction with expanding brakes from the inside of the drum. Price \$15.—Rishmuller Mfg. Co., 3442 Nineteenth Street, San Francisco, Cal.

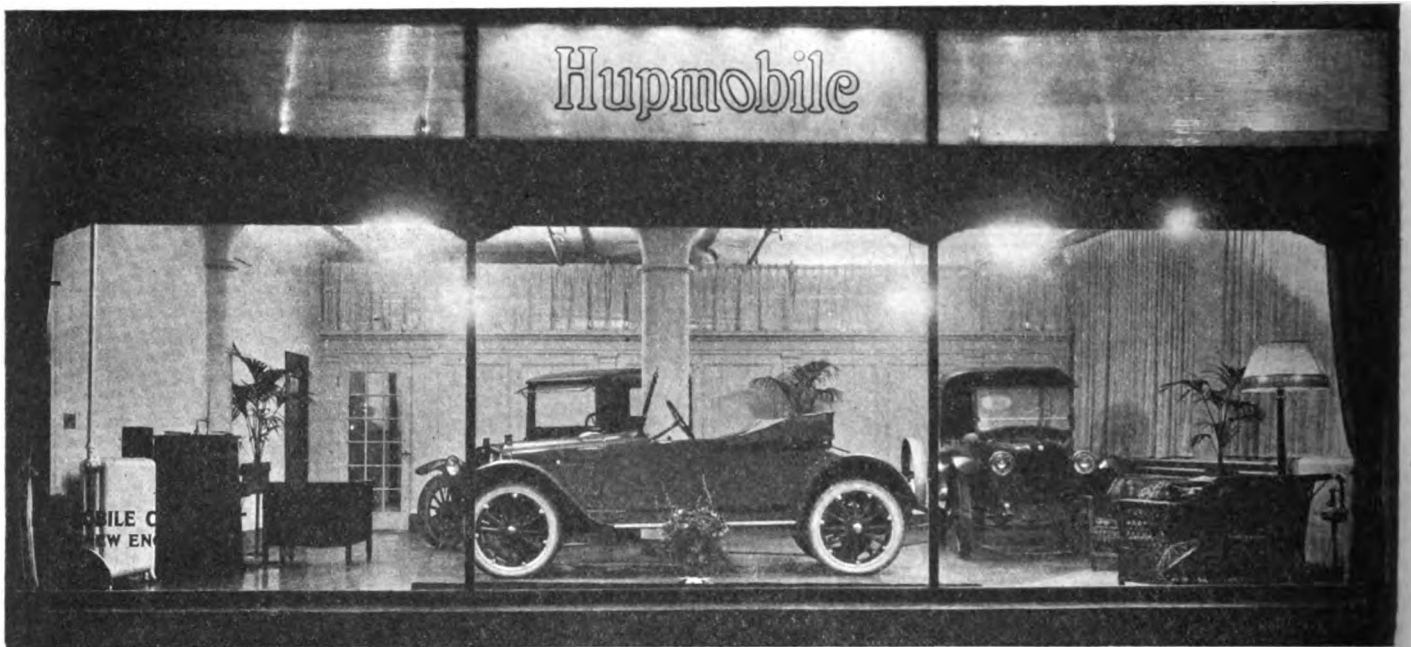
### IDEAL ADJUSTABLE EXPANSION BRAKES FOR FORDS

This is a set of expansion brakes for Ford cars, so constructed as to act on the whole inner surface of the drum. They can be adjusted to have continually the same effect until completely worn out. The brakes can be connected up to operate either on the hand lever or with the pedal. A grease retainer is furnished with the expansion brake. Price \$7 with asbestos lining.—Rishmuller Mfg. Co., 3442 Nineteenth Street, San Francisco, Cal.

### REX VALVELESS POWER TIRE PUMP

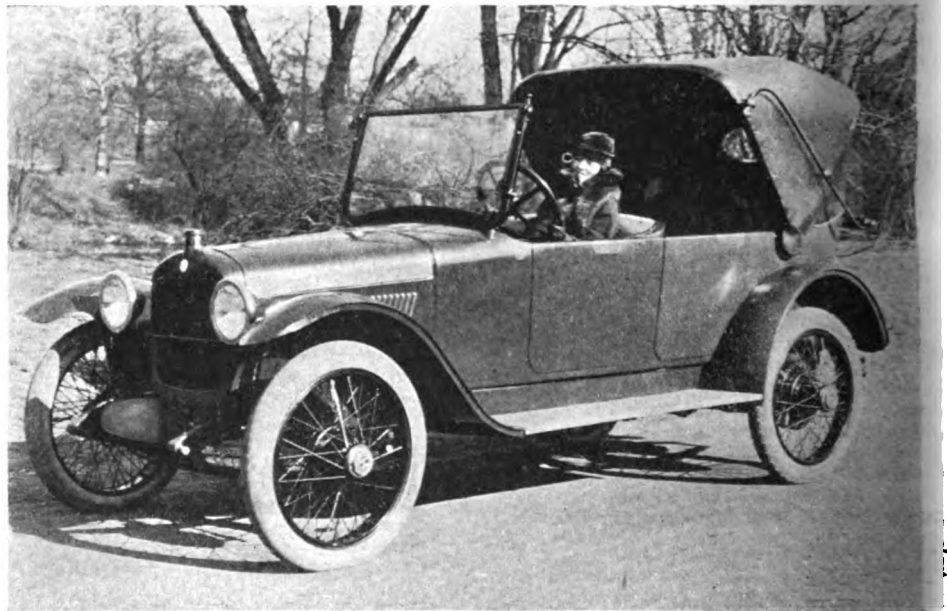
This is an engine-driven tire pump without valves, the valve function being taken by the piston which opens and closes ports at the correct time to admit and release the air. The air is slightly compressed in the lower chamber and is then by-passed to the upper chamber through a groove in the side of the piston which coincides with a port in the cylinder wall, this port closing as the piston goes up. The secondary compression takes place in the upper chamber. Price \$18 complete with fittings, air hose, gage, etc.—Rex Machine Co., 3201 Shields Avenue, Chicago.





## Building for Business in the New Way

*The Way This  
Boston Dealer Does  
It Is a Money-making  
Thought for YOU*



**S**HERWOOD HALL is merchandising motor cars in Boston in the NEW way that will bring him *money in 1919 and more money in 1920*. And to Motor World he gives the credit for many of his ideas. **HOW MANY OF THE IDEAS IN THIS ISSUE ARE YOU GOING TO USE?** Hall says:

"If you remember the row of stores where we are located you will remember that they were long, narrow, cave-like affairs, very dark in back with no advantage taken of the show windows for display.

"I have always believed that to put something across in Boston in good shape unusual methods would do it, so we started with the salesroom. We ran a partition across 20 ft. back from the window. This is of beaverboard and light posts with a removable section for taking cars in and out. We then covered the cold, iron-sashed windows at the right with light, buff scrim curtains, run-

ning a curtain of the same kind along the top of the partition, and hung a valance in the window with a curtain at each end. We then painted the walls a light cream and the floor of a neutral brown, which gives the effect of tile.

"We moved the switchboard from the rear to the front door, and added to it a neat desk for a stenographer, who acts as an information bureau, meets everyone who enters the door, answers all questions and even sells cars. She is also custodian of the salesroom and keeps it immaculate.

"We finished off with large brown rugs and wicker furniture, as well as with a standing lamp, which you see in the window at the right. We have magazines on the table, a cozy corner and palms to break the monotony along the wall. There are no pictures of any kind—the entire effect is to bring out prominently the three cars we are displaying.

"The ideas are partly my own as

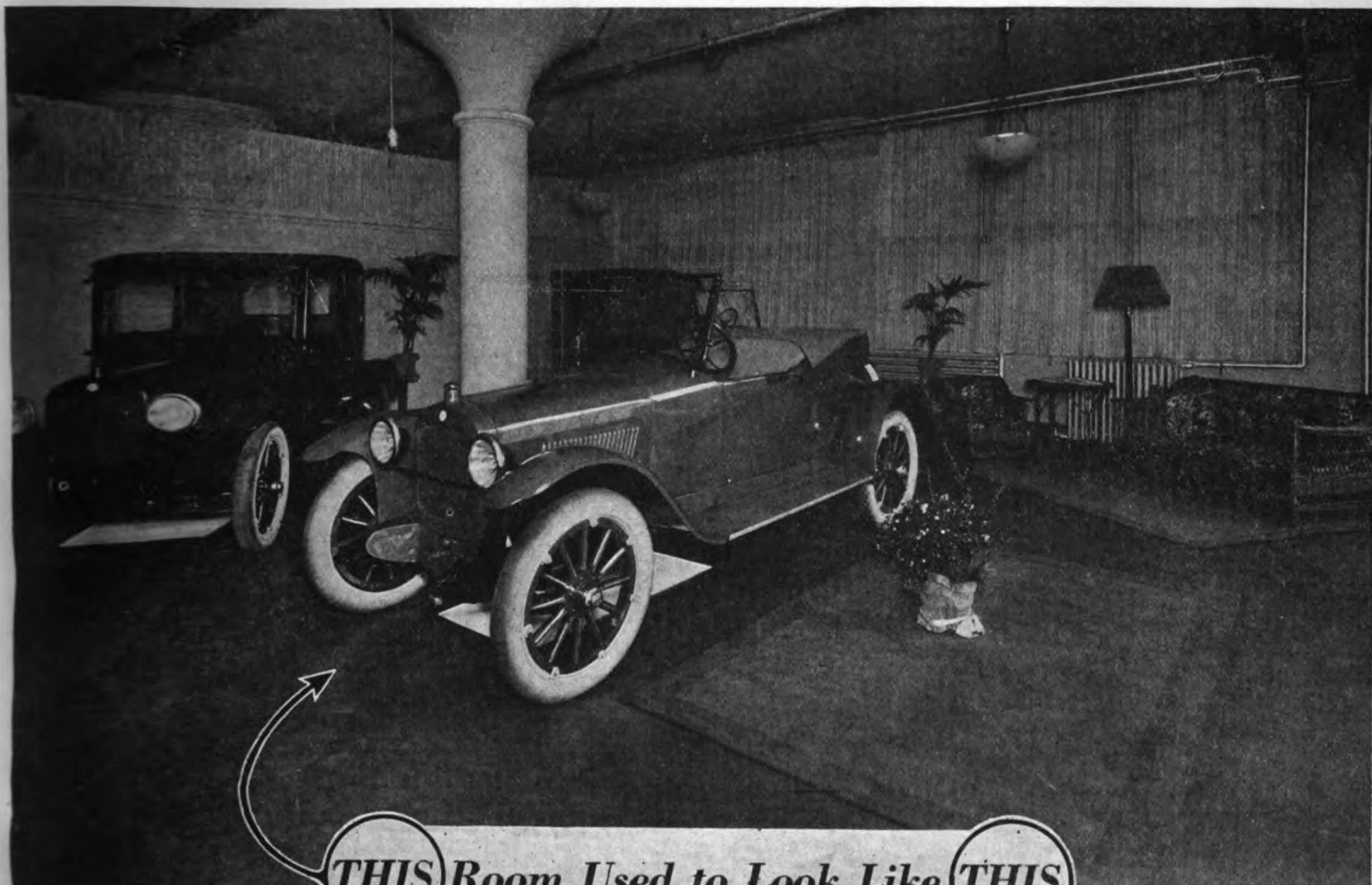
worked out from your many letters to me and articles in the *Motor World* on the proper display of cars in motor shows. In order to have a proper artistic and architectural effect I went to an interior decorator and gave him full charge of the job. I paid him for the finished job. He ordered everything.

"We change the display frequently, moving the cars around so that different ones are shown in the window. The front car is always set back 8 or 10 ft. from the window, which gives it better display and does not hide the rest of the salesroom, as is often the case. At night we use reflectors and spotlights to show off the main car. The whole job cost less than \$1,500.

"We have a woman porter whose main job is to keep the cars spick and span. They are gone over a dozen times a day. The woman porter is very successful in keeping things neat.

"With this setting as a start we have





**THIS** Room Used to Look Like **THIS**



rotten out a special line of cars with the standard Hupmobile as a base, but with distinctive paint jobs, special equipment and distinctive New England names, such as Bretton Woods, shown in the accompanying photograph. These cars sell quickly at good prices.

"Business is exceptionally good and as long as we can continue along present lines we ought to have a remarkably good business."

### The Pictures on These Pages

The bottom of this page shows how the salesroom used to look, bare floor, bare walls, iron window sash, "garagey" floor. The picture above on this page shows how the salesroom looked after Hall covered the bare windows with curtains, erected a partition and added a bit of furniture. The picture at the top of the opposite page shows how he illuminates until 11 at night. The car on the opposite page is just a plain Hupmobile, painted a special color, fitted with slip covers and a Victoria top and sold at a longer profit than the regular Hupmobile brings. Read the story



## The Jobber Must

# Job in the New Way

He Must Be More Than a Passer-on of Goods If He  
Is to Fulfill His Mission in the Business  
World and If He Is to

**MAKE MONEY IN 1919**



**MAKE MORE IN 1920**

**T**HERE are jobbers—and jobbers. Some have the BIG IDEA—and some haven't.

Some are a shipping clerk of the industry—others are an efficient link in a merchandising chain.

Some take goods in one door in big parcels and shoot them out the other door in small parcels, considering that the aim and end of their existence.

Others, in addition to receiving and shipping goods, take an interest in the merchandising system of which they are a part and endeavor to make their dealers more efficient, thereby benefiting the entire industry from factory to consumer.

The NEW jobber is of this latter type. He is going to succeed in greater measure, he is going to be the successful and prosperous jobber of future years, he is going to be a leader in his line, he is going to make money in 1919—and more in 1920.

### Harmony With Manufacturer

The NEW jobber is going to operate in harmony with the manufacturer. He is going to order in an intelligent manner, stipulating just what he wants and when he wants it, and taking the goods when they are shipped. As a matter of good business he will take advantage of his cash discounts, and, if he hasn't the finances to take advantage of discounts he will GET THEM.

He also will consider the matter of selling merchandise at wholesale only. This will be one of his first considera-

tions in creating an organization of efficient dealers in his merchandise. Some day the trade will be mostly wholesale only because the jobbers will realize that dealers can't be expected to operate unless the jobber gets out of the way and gives them room to work.

### Teach the Dealers

The NEW jobber will be a teacher of dealers. He will learn that there is a limited field for the man who simply passes goods on to the dealers, and that there is an unlimited field for the jobber who reaches down into the trade and makes bigger the outlet for goods into the consumer field.

This jobber will have a Merchandising Department, whose work will be the development of better sales and business methods among the dealers. He will have a man who is capable of overhauling a dealer's business and putting it on a paying basis, and he will maintain this service in such a manner that he will have the good-will of a group of dealers who are from month to month selling MORE of this jobber's goods.

Meetings of the jobber's salesmen will be held regularly. Of course, they will be taught better salesmanship, but, in addition, they will be taught how to teach the dealer to sell more goods and make more money.

They will understand how to enter a dealer's place of business and ascertain wherein his business system is deficient. They will then put him in touch with

the jobber's Merchandising Department and co-operate with the dealer and the department until the dealer is set right and on the way to profits.

They will understand window trimming and display. They will know how display windows and fixtures can be easily and cheaply constructed. They will take the initiative in getting the dealer started along these lines, if necessary taking off their coats and getting the erection of a display window started.

They will help the dealer establish a suitable office and will see to it that it is kept clean. They will be willing when making calls to walk in, say not a word, get the broom and clean out the office, thereby setting an example to the dealer.

In many original ways these jobber merchandisers will exert a powerful influence on their trade. They will be always working to make it better. They will show the dealer how to cash in on a runway cabinet—see page 31—they will teach him the value of good letters and how to write them—see page 35—and they will so operate that whenever the dealer wants goods, service, ideas or help of any kind he will turn to this JOBBER OF THE NEW SCHOOL. And this jobber will

**Make Money in 1919**

**Make More in 1920**

**AND DON'T FORGET—The biggest single factor in the development of the automotive equipment business is the jobbers' salesmen. What are YOU doing, Mr. Jobber, to Help them play the part they should and can?**

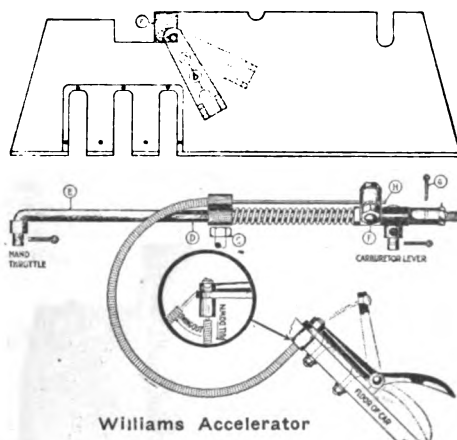


# MORRISON'S LINSEED OIL POTASH SOAP

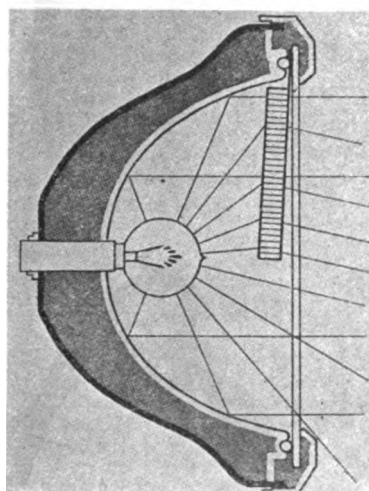
This is a linseed oil potash soap for washing stone or concrete floors. It is claimed that the use of this soap with water leaves no greasy, slippery surface, but will leave a sanitary clean floor. The emulsion is prepared by dissolving  $\frac{1}{4}$  lb. soap in the proportions of 1 $\frac{1}{2}$  to 1 $\frac{1}{2}$  gal. of hot water.—Glotzen Lubricating Co., Forest City Bank Bldg., Cleveland, Ohio.

# WILLIAMS ACCELERATOR FOR FORDS

This is an accelerator or foot throttle for Fords, and has only three connections. The pedal is attached to the floor board of the car by means of bolts, and the carburetor throttle rod is manipulated by means of a flexible cable from this pedal to the hand throttle rod. An auxiliary spring device allows the foot throttle to be operated independently of the hand lever, and the hand lever can be set at any point and when the foot throttle is released the throttle will go back to the point indicated by the hand throttle. The spring action is on the accelerator only. Price \$3.50.—Williams Bros. Aircraft Corp., San Francisco, Cal.



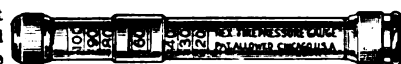
Williams Accelerator



Raydex Headlight Deflector

# RAYDEX HEADLIGHT RAY DEFLECTOR

This is an all-metal cellular headlight ray deflector which is inserted in the upper half of the headlight behind the regular plain glass. The device consists of a large number of cells, each cell being highly polished and reflecting the rays of light that pass through in a clearly determined direction. There are 3000 triangular cells containing 9000 reflecting surfaces which reflect the light without reducing the intensity. The lower part of the headlamp is left open for side lighting at points near the car, so that the lower part of the lens illuminates from curb to curb, and for a short distance, and the rays obtained through the device illuminate in the distance. The device is shipped in assorted sizes, 48 pairs to the case. Made in all sizes to fit all cars. Price \$6 per pair for all standard cars, \$5.50 for Fords.—Omolt Co., Inc., Jamestown, N. Y.



Rex Tire Gage

# REX GAGE

This is a tire pressure gage with the figures in black on a white celluloid surface, a small collar sliding up over the cylinder and a window in the collar exposing the pressure as shown by the gage. Each gage is furnished in a leather pouch. Price \$1.25.—Protex Tire Gage Co., 15 North Jefferson Street, Chicago.



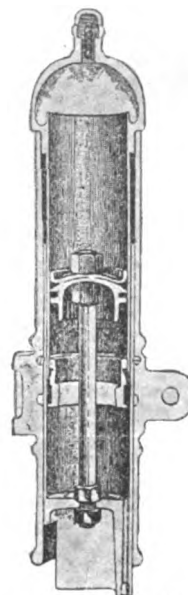
Utility Wrench Set

# UTILITY UNIVERSAL WRENCH SET

This is a wrench set consisting of three sleeves, each sleeve having a pair of jaws tapered

# Buyer Is Also Seller

I have only one man to purchase automobile equipment, and the same man sells it. He is thus able to study conditions and keep the whole business in his own hands.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winton, Kansas City.



Gruss Air Spring

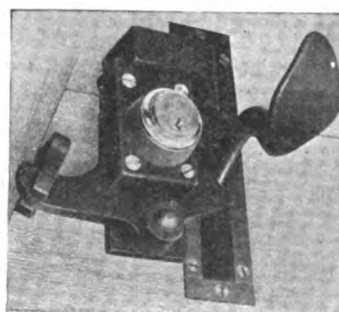
so that when the sleeve is pushed down over the jaws the jaws contract on the nut. Holes are drilled through the upper end of the sleeve so that the rod can be inserted and used to obtain leverage. The three wrenches will handle any sized nut found on any automobile. Price \$3.50.—Hill Pump Valve Co., Archer Avenue, Canal and Twenty-third Streets, Chicago.

# GRUSS AIR SPRING

This is a shock absorber combining the action of springs, compressed air and vacuum to take up the recoil. The device is attached to any existing car or truck by means of castings of different kinds which are designed to fit springs of different widths and frames of different sections. An air cushion is maintained both above and below the plunger. The complete equipment consists of four air springs with castings suitable to make of car, painting being in any color to match the car. Price \$250.—Pneumatic Cushion Co., 179 Grove Street, San Francisco, Cal.

# IDEAL LOCK FOR FORDS

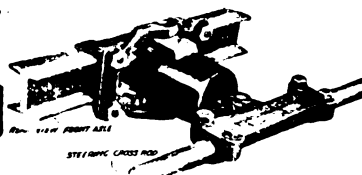
This is a lock for Ford cars, the locking being accomplished by holding the clutch pedal in neutral position. The lock snaps shut so that when leaving the car, a kick of the foot will lock the pedal. To unlock the pedal, it is necessary to use the key which is furnished with the lock. The device can be installed in about one-half hour. Price \$4.—Rishmuller Mfg. Co., 3442 Nineteenth Street, San Francisco, Cal.



Ideal Lock

# HASTINGS STABILIZER FOR FORDS

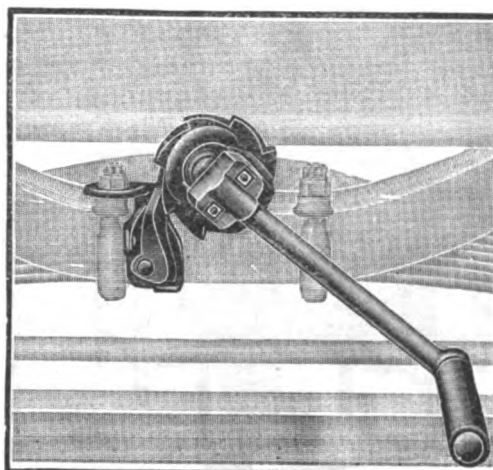
This is a steering stabilizer for Ford cars. One part of the device is clamped to the rear of the axle and the other part to the tie rod and that portion of the device containing the compression spring is pivoted between them. When the tie rod moves to one side or the other the spring is compressed and the tension of the spring tends to bring the tie rod back to the central position. It can be attached in a few minutes with a wrench and no machine work is necessary. Price \$3.75.—Hastings Mfg. Co., Hastings, Mich.



Hastings Stabilizer

# NON-KICK CRANKING DEVICE FOR FORDS

This is a crank handle for Ford cars to prevent back kick. A pawl is attached to the shaft of the crank and a ratchet engages this pawl as the pawl revolves. In the event of a back kick the pawl would prevent the ratchet from turning the wrong way. It can be installed in a few minutes without the use of any machine tools and does not interfere with the cranking of the car. Price \$4.—Jackels & Campbell Co., 1622-24 McGee Street, Kansas City, Mo.



Non-Kick Cranking Device



### HOLLEY ALL-FUEL CARBURETER FOR FORDS

This is a carbureter for Fords which handles gasoline, kerosene, distillate, benzol or alcohol. The equipment consists of special exhaust and inlet manifolds replacing the standard Ford manifolds, a mixing chamber, a double float chamber, a small gasoline tank in which to carry fuel for starting and all necessary connections ready to complete the installation. To facilitate starting, the equipment includes a choker as well as a primer for flooding the float chamber. Price \$35.—Holley Carbureter Co., Detroit.

### NEVEROUT PARKING LIGHT

This is a kerosene lamp to be attached to the windshield by means of a bracket. It is intended to be used when a car is parked to save the storage battery. Made in brass and finished either in nickel or gun-metal. Price \$5.—Rose Mfg. Co., 910 Arch Street, Philadelphia.

### UTILITY DISAPPEARING TRUCK FOR FORDS

This is a disappearing truck body for Ford roadsters, the body sliding in and the turtle deck being pulled down into its ordinary position over it when not in use. The truck body can be brought into operation or folded up in a few minutes. The capacity is  $\frac{1}{2}$  ton. Only four bolts are used in attaching it and it can be installed in an hour with a hammer and wrench. Price \$38.50.—Hill Pump Valve Co., Archer Avenue, Canal and Twenty-third Streets, Chicago.

### KLAXON MODEL 10

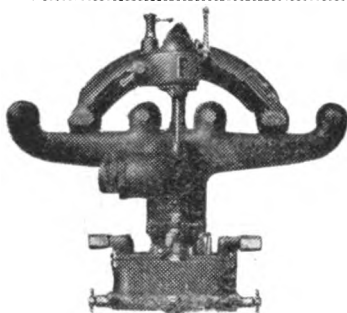
This is a hand operated warning signal built especially for trucks. It is of heavy and sturdy design to bear rough usage. The operation is by turning the small hand crank on the back of the horn. The horn is mounted on a swivel base, which is screwed to any convenient part of the truck. The horn can be turned in any direction and clamped in that position with the thumb screw. The horn can be removed from the bracket if desired. Price \$12.75.—Klaxon Co., Newark, N. J.

### ECO TWO-IN-ONE SERVICE STAND

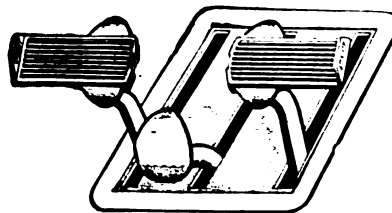
This is a service stand for holding either the Ford engine or the Ford rear assembly. The engine rests on the same three supports that it rests on in the chassis and after the power plant has been assembled it may be tried out under its own power. To change over to the rear assembly it is only necessary to add three pieces. The height is 27 in., width 13 and 26 in., length 32 in., tool shelf 11 x 12 in., grease pan 13 x 20 x 13 in. The shipping weight is 185 lb. Price \$32.50.—Western Mfg. Co., Oskaloosa, Iowa.

## Buy Right—and Advertise

How can an automotive equipment department make money? By conservative buying and by advertising your goods in a catchy manner.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winton, Kansas City.



Holley All-Fuel Carbureter



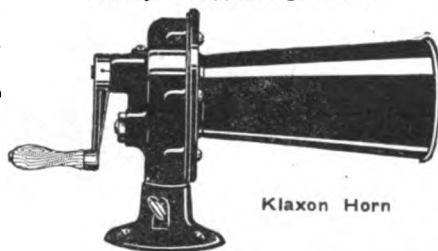
Utility Pedals for Fords



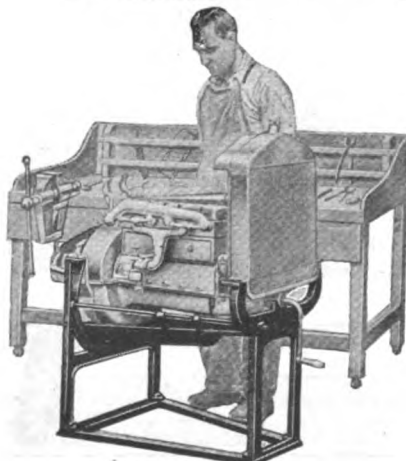
Neverout Parking Lamp



Utility Disappearing Truck



Klaxon Horn



Eco Engine Stand



J. & B. Timer



Reichert Emergency Chain



Ajax Splicing Sections

### UTILITY SURE-GRIP PEDAL FOR FORDS

This is a set consisting of two pedal pads to be attached to the Ford clutch and brake pedals. The grips are made of rubber and steel, the rubber preventing the foot from slipping and the flanges on the outside end preventing the foot from sliding off the pedal. Finished in black enamel and edged with non-rusting metal. Attached without drilling holes or without the use of special tools. Packed one pair in a box, ten boxes in a carton, and ten cartons to a case. Price \$1.25 per pair.—Hill Pump Valve Co., Archer Avenue, Canal and Twenty-third Streets, Chicago.

### J. & B. TIMER FOR FORDS & FORDSONS

This is a heavy duty timer interchangeable with the timer on the Ford car and the Fordson tractor. A music wire spring exerts a constant pressure of the roller against the fibre ring and the roller and bushings are of special stock, machined and ground to size. The outside is Parker Rust-Proof Finish. Price \$1.45. Extra rotors 50 cents.—J. & B. Mfg. Co., Springfield, Mass.

### REICHERT TRUCK CHAIN FOR FORDS

This is a non-skid chain for Fords or other trucks with wheels having  $1\frac{1}{4}$  in. oval spokes. The malleable clamp is placed around the spoke and the snap hooks of the chain hooks into the staple, preventing the clamp from opening. Packed six units in a bag. Price \$12 per set of 12 units or two bags.—Imperial Bit & Snap Co., Racine, Wis.

### GENERAL CORD TRUCK TIRE

This is a large pneumatic tire made in truck sizes, such as 36 x 6, 38 x 7, 40 x 8, etc. Trucks now equipped with solid tires can be changed over to pneumatic truck tires on an average expense of approximately \$190.—General Tire & Rubber Co., Akron, Ohio.

### AJAX TUBE SPLICING SECTIONS

These are tube splicing sections made of high quality live rubber. They are used in making repairs to badly damaged tubes where it is necessary to fit in a large piece. Consideration has been given to the stretch that necessarily occurs in all tubes that have been used for a length of time. These sections are made up in ample size to conform with the diameter which is to be spliced. Furnished in either red or grey, sizes from 3 to 5 $\frac{1}{2}$  in. diameter, these sections being 15 in. long.—Ajax Rubber Co., New York City.



### Teach Selling to All

The sale of parts and accessories is equally as important, if not more so, than the purchasing of them. Stock clerks and accessory salesmen, and also car salesmen, should be taught the selling points on all articles in order to talk intelligently to customers and prospects about each and every article. Every man connected with the selling organization should acquaint himself with the merits of everything his company sells so that he may keep in advance of the needs of his customers.—Lloyd Edson, Sales Manager, Rude Auto Co., Cedar Rapids, Ia., Ford and Fordson.

### Proper Stock Arrangement

Too much attention cannot be given to the arrangement of stock-rooms in order to facilitate storage, display and sales. If, upon trial, the existing arrangement does not prove to be the most advantageous and satisfactory, changes should be made, provided, of course, such changes do not involve prohibitive expense. The man in charge of the stock should be a man capable of estimating the advantages of arrangement, and, if he is not, then he should be replaced by some one who is.—Lloyd Edson, Sales Manager, Rude Auto Co., Cedar Rapids, Ia., Ford and Fordson.

### Notice!

A notice, clearly written in pencil on a large piece of cardboard, at the entrance of the Woodlea Garage, Kansas City, says:

No more loafing. It means what it says.

We have no desire to have this regular bunch of chauffeurs and men loafing around here.

Unless your employer has his car here and unless you can give a good reason—please find some other place to hang out, as this is no club house.

Man, this means just what it reads and we hope you will do us the favor of obeying these rules.

Now as to hanging on the telephones, this must stop. Hereafter ask our permission before using them. If they are not worth asking for, they are not worth talking over.

Please cause us no further trouble.—Woodlea Garage.

### Wins Confidence

One of us, myself or my son, is on the job every hour, day and night—and we urge owners not to lock their cars. We show that we

## Sell Supplies

Make Money in 1919  
Make More in 1920

More ideas on pages 29  
and 30

are sure to know who takes out the car, and the customers have confidence that their property is safe with us.—W. S. Allard, Woodlea Garage, Kansas City.

### "We Paint Cars"

"We paint cars," displayed in huge letters on billboards, has been used satisfactorily by Don Lee, Los Angeles, to attract attention to this department of his establishment. The result is the painting force has had to be increased and a considerable income has been derived from this department.

### Got Rid of "Gang"

W. S. Allard, proprietor of the Woodlea Garage, Kansas City, found when he took charge that

chauffeurs of the neighborhood were making his front office a loafing place. Some patrons complained of the "gang"; others feared equipment or cars might be stolen, seeing the loose methods, and owners habitually locked their cars. There had been cases of cars being used for joy rides. Allard posted a notice prohibiting loafing by chauffeurs, and got rid of the objectionable element, having no trouble with the chauffeurs of patrons. The notice reassured patrons, and the enforcement of it brought about safer conditions and pleasanter surroundings for women calling for their own cars.

### Check Equipment Purchases

We make out duplicate orders for equipment and repairs, and check the goods when delivered, or brought back to the garage by employees. During war times we had to put up with substitutions and errors; but there is no reason for laxity now. We would be stuck with unsalable goods, and would get things we have no use for and would not want to tie our money up in, if we did not check every item carefully. If an order has not been accurately filled we secure an adjustment at once, even if I have to make a trip downtown to do it. Sometimes the errors are small, but we stick to the rule, so that it is sure to be observed, and so that the little drains on the pocketbook, the annoyances from not having just what our customers will want can be avoided.—W. S. Allard, Woodlea Garage, Kansas City.

### A Bit of Backbone

You're going to sell accessories, like chains, for instance, anyway. So why give them away on the sale of a car? It's mighty easy to get into bad habits this way. Take this business, as an example. Before the present management bought it 167 cars had been sold and a set of chains had been given away with every car. At that time chains cost \$2 a set. That's \$334 actually given away. When we took hold of the business we stopped all that sort of thing. There were some kicks, of course, but we've got them educated now and when a man buys a car he buys a car and nothing else. Accessories are extras and are paid for as such. It's just as easy when you've got the backbone.—E. F. Raver, manager accessory department, Jefferson Auto Co., Jefferson, Ia., Ford and Fordson.

<b>STORAGE</b>		<b>TAG</b>	
<b>C. W. FREY</b>			
AUTOMOBILES AND ACCESSORIES BLOOMINGTON, ILL.			
No.	DATE		
	STALL No.		
Storage	2468		
Wash			
Gasoline			
Oils			
Work Order			
<b>C. W. FREY</b>			
WASHINGTON and MADISON STS. BLOOMINGTON, ILL.			
No.	DATE		
	STALL No.		
DAYS 350			NIGHTS 500
<b>OPEN ALL NIGHT</b>			
<b>Retain This Check</b>			

PREVENT CAR STEALING  
C. W. Frey of Bloomington, Ill., has this claim check system for cars on transient storage. No man can walk in and drive out with a car that doesn't belong to him



**MOTO-METER**

This is a recording device which shows by means of a thermometer tube on the radiator cap whether the engine is operating normally or whether it is overheated or running too cold. It does not register the water temperature but registers the temperature of the air directly above the water. The standard models can be fitted to any radiator cap by simply drilling a hole through and putting a nut on the lower side. Other models are the Universal \$7.50, Junior \$5, Ford model \$2.75, Midget model \$2.50, and Overland & Willys Knight model.—Moto-Meter Co., Inc., Long Island City, N. Y.

**REED SUNSHADE**

This is a shade made of artificial leather mounted on nickel spring rollers, the roller being attached to the upper edge of the rain vision or auxiliary wind shield. When driving against the sun or when other conditions demand it the shade is pulled down on the outside of the rain vision and clipped in place. When not needed the shade is rolled up out of the way. Price \$10.—Vehicle Top and Supply Co., 3414-3418 Linsell Avenue, St. Louis, Mo.

**NEW YORK FOOT SUPPORTER**

This is a swivel device to be attached to the floor board under the instep of the foot that operates the accelerator pedal. A coil spring tends to keep the device in an upright position and the device springs back and forth as the foot represses or raises the accelerator. It is attached to the foot board with two wood screws and there is an extra set of holes for adjusting the height. Price 75 cents.—New York Coil Co., 338-340 Pearl Street, New York City.

**SECURITY SWITCH LOCK FOR FORDS**

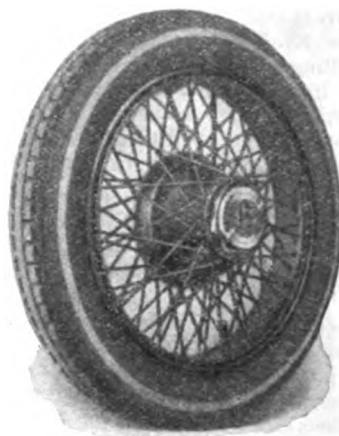
This is a switch lock for Fords which not only locks the ignition circuit, battery or magneto, but also grounds the entire ignition system so that it is impossible to wire around the coils. The screw holes are covered by steel bars and a powerful cam forces the bars over the screw heads on a turn of the key. The barrel lock is unpickable and magneto or battery current or both may be used just the same as before the switch lock was applied. Price \$3.25.—New York Coil Co., 338 Pearl Street, New York City.

**Display Car Parts**

Motor car parts should be made a part of the automotive equipment section and placed on display so that they can be easily sold. To-day many persons are installing new parts in their own cars.—W. L. Johnson, president, Johnson Automobile Co., St. Louis.



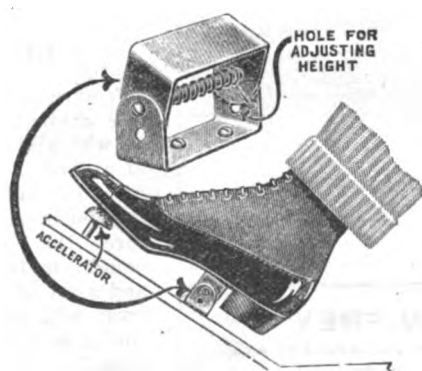
Moto-Meter



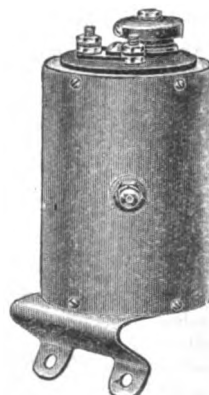
Casco Wire Wheel



Reed Sunshade



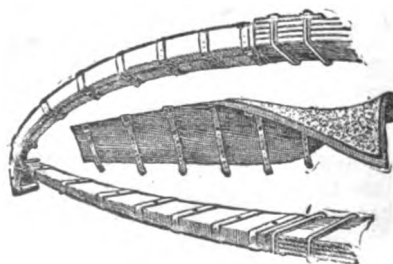
New York Foot Supporter



New York Replacement Coil



Security Switch Lock



Woodworth Spring Cover

**CASCO WIRE WHEELS FOR FORD, CHEVROLET AND OVERLAND**

This is a complete set, comprising five wheels, four inner hubs, adapter, hub caps, dust cover for spare wheel and wrench. The wheels can be used on the Ford, Chevrolet 490, or Overland Model 4. The standard 56 in. tread is retained, the valve stem hole is placed to allow an unobstructed accessibility to the valve stem and the sixty spokes are arranged to form a wire suspension construction. The hub construction is entirely of pressed steel. By the use of the adapter hub for the Ford and special inner hubs for the Chevrolet and Overland, one set of wheels will interchange on these different makes. The hub is of two pieces, employing the principle of a lock nut with right and left hand thread. Price \$75 per set for any one of the models. Spare wheel carrier, \$10.—National Wire Wheel Wks., Inc., Geneva, N. Y.

**NEW YORK REPLACEMENT COILS**

These are replacement coils that are interchangeable with those supplied on modern battery ignition systems. Made in eight different models, these eight covering replacement for all makes of cars. Price \$10 each excepting models L-3 and L-4, which are \$7.50 each.—New York Coil Co., 338 Pearl Street, New York City.

**WOODWORTH LUBRICATING SPRING COVER**

This cover consists of a water and oilproof material having a felt pad inside which is saturated with oil before the cover is put on. The cover encloses the spring from the clamps at the thick part to the end of the tapered leaves. The cover is held in place with small straps about 2 to 2½ in. apart. The covers provide lubrication and keep out moisture and dirt. Made in eight different sizes, these eight being sufficient to fit all springs on all makes of cars. Set for Ford cars price \$2.50.—Woodworth Mfg. Co., Niagara Falls, N. Y.

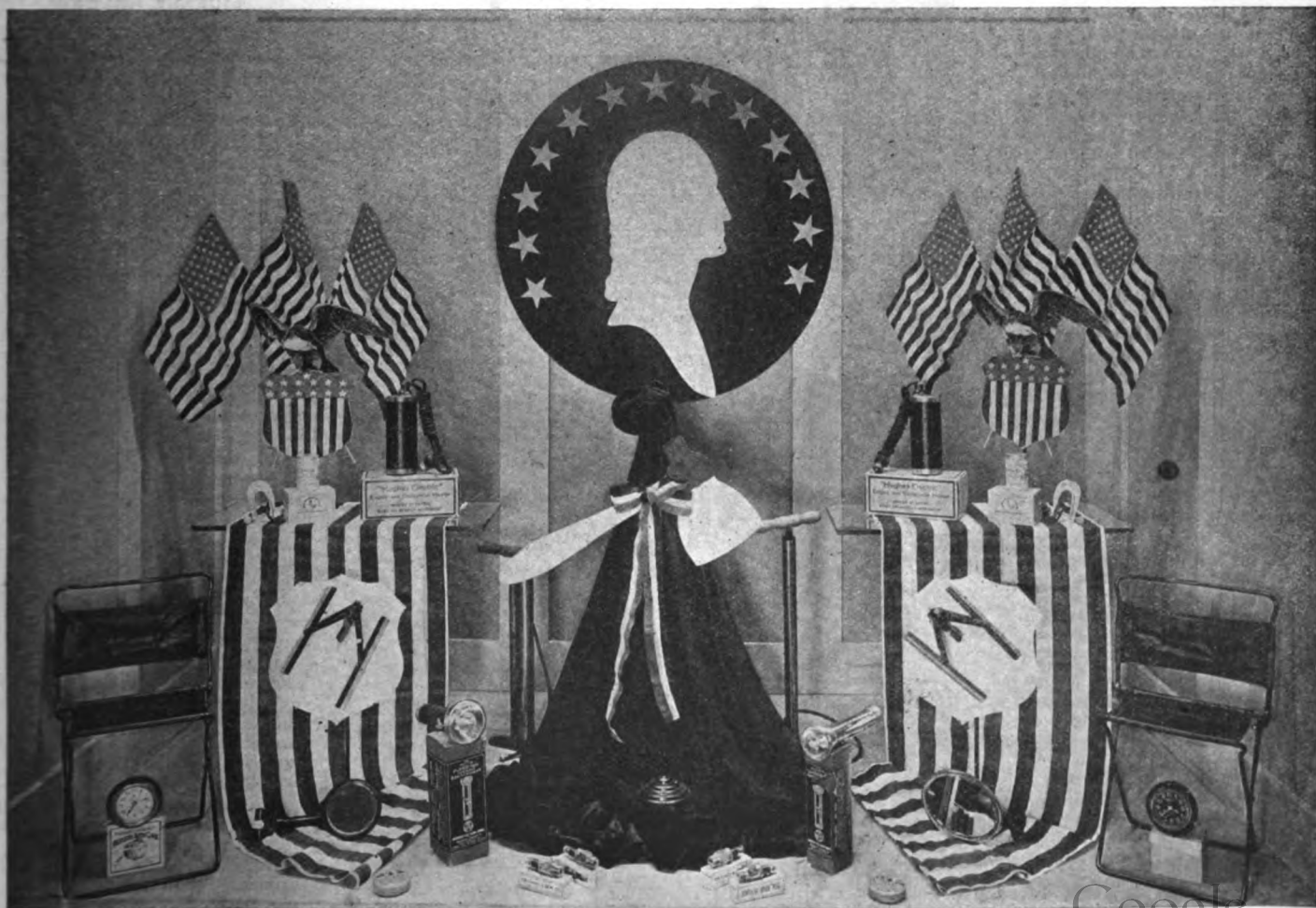
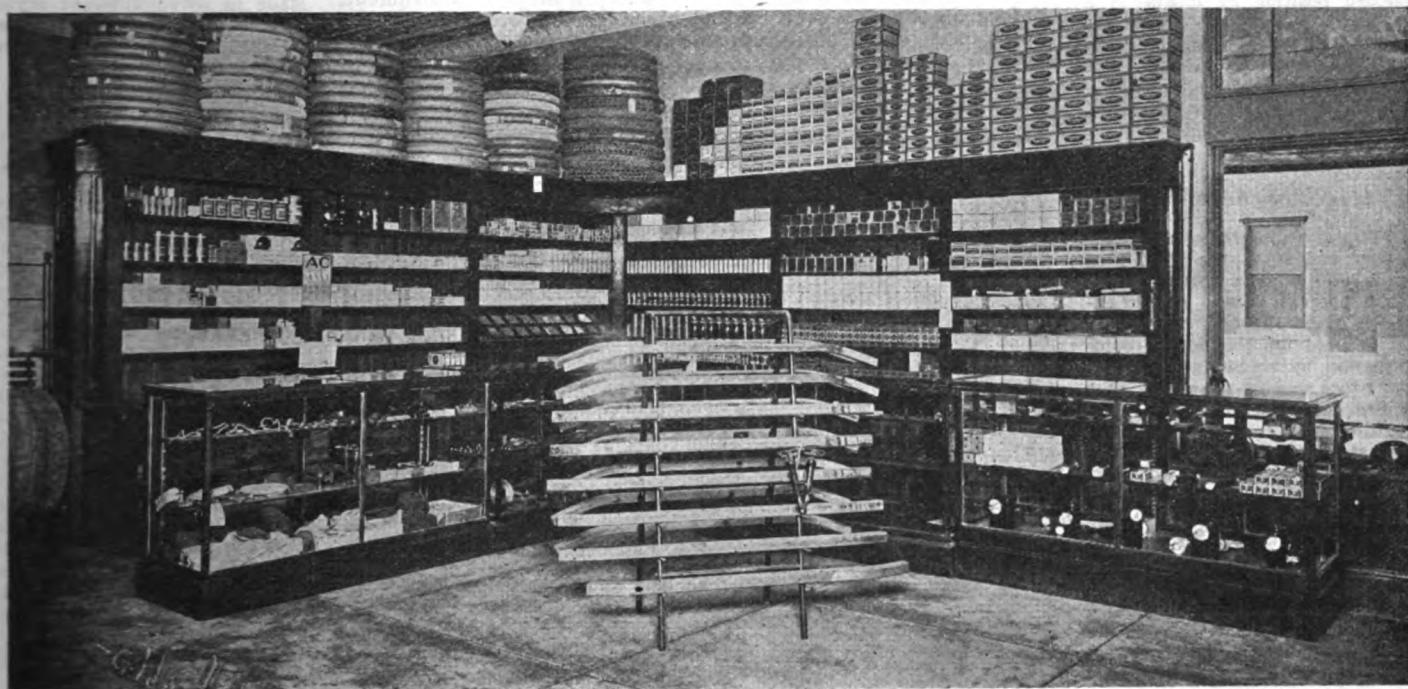
**SE-MENT-OL RADIATOR CEMENT**

This is a compound in powdered form which is poured into the radiator through the filler cap. It dissolves in the hot water of the radiator and when it comes in contact with the air through any leak, it solidifies, sealing the leak up. Price 75 cents for a 7 oz. can, which will repair a 12 gal. radiator. Also made in liquid form, price 75 cents for a 10 oz. can, which will repair a 6 gal. radiator.—Northwestern Chemical Co., Marietta, Ohio.



# Let Merchandising Make You Money

*Make your store look like that of J. C. Kilgore of Waco, Tex., in the upper picture. Use the patriotic display in the lower picture, using an American shield in place of the starred circle*





### TABER COMBINED MUFFLER & CUTOFF FOR FORDS

This is a combined muffler and cutoff for Fords. The cutoff feature is part of the muffler proper and is controlled by a lever which is attached to the foot pedal with a chain, the lever being returned to its closed position by means of a spring. The muffler fits on the Ford exhaust pipe in place of the regular Ford muffler. Price \$4.75; \$5 west of the Rockies.—Emco Mfg. Co., Binghamton, N. Y.

### S. & N. COMPRESSION PLUG

This is a plug threaded on the lower end to fit the spark plug hole and on the upper end to fit a tire valve cap. A hole extends clear through the device. It is used for testing the compression by screwing the lower end into one of the spark-plug holes and attaching a tire gage to the upper end. The gage will register the compression in pounds. Price \$1.25.—S. & N. Compression Plug, 63 Oliver Street, Boston.

### HIPCO RUNNING BOARD MAT

This is a rubber runningboard mat which is attached to the runningboard by means of copper-plated washers which are embedded in the rubber to support the bolts or screws which hold it in place. It is reinforced with a strip of fabric impregnated for waterproofing purposes and inserted under pressure on the outside edges. This is said to make the mat lie flat and tight on the runningboard. Price \$1.50.—Hipco Mfg. Co., 34 Columbus Avenue, Boston.

### MORGAN BALL JOINT

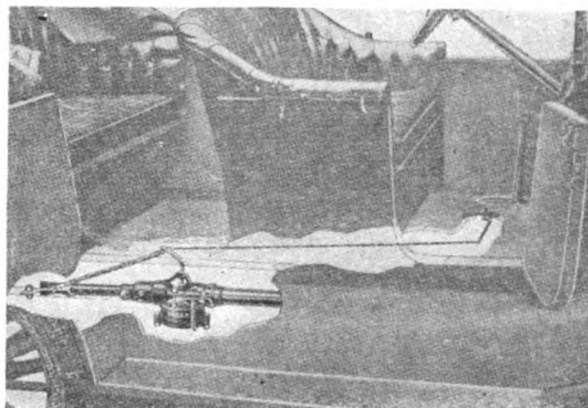
This is a ball joint for making connection between the steering wheel and throttle or timer or magneto levers. Made in either machine screw, United States Standard or S. A. E. Thread. Prices from 12 cents to 15 cents each.—Morgan Mfg. Co., Inc., Keene, N. H.

### LIBERTY STARTING PRIMER

This is a starting primer for Fords and consists of a high pressure fuel pump operated from the dash which forces gasoline through tubing directly to the cylinders through the two branches of the intake manifold. At the same time a supply of atomized fuel is supplied at the base of the intake manifold to take care of the next few explosions. It can be attached in less than an hour and the equipment is complete with all parts necessary for installation. Price \$8.—Liberty Primer Co., Inc., 676 Woodward Avenue, Detroit.

### Leads to Car Sales

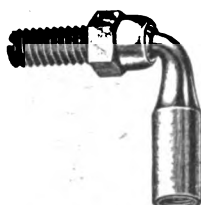
The equipment department is a fly to draw customers for new cars. A man who comes to me for parts will eventually come to me when he wants a new car. It is like selling groceries. I used to sell them down in Arkansas. One particular man never bought much of me, but I was always accommodating in small things. One day he invited me out to dinner and informed me that he was about to open up a large establishment. Before dinner was over he had given me his order for \$3,500 worth of goods. The same principle holds good in automobiles. Treat a man pleasantly in the small things and he will come to you for the big things later.—J. W. Prather, parts manager, Maxwell, Chalmers and Winton, Kansas City.



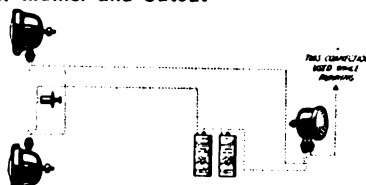
Taber Muffler and Cutoff



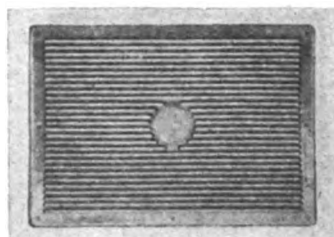
S. & N. Compression Plug



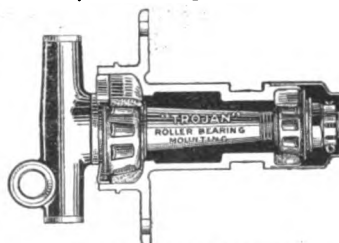
Morgan Ball Joint



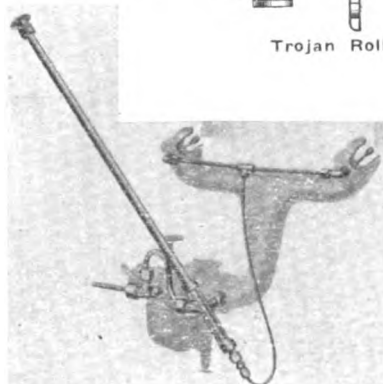
K-D Electric Light Outfit for Fords



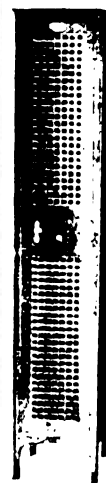
Hipco Runningboard Mat



Trojan Roller Bearings



Liberty Starting Primer



H. & H. Steel Locker



Morgan License Holder



Victor Spark Plug

### H. & H. STEEL LOCKERS

These are steel lockers of special construction eliminating angle irons and frame work. The door frame and legs are cut out of one solid sheet of steel. The steel is extra heavy gage and the finish is in olive green or black enamel baked on. Made in seven different styles to meet different requirements.—Hart & Hutchinson Co., New Britain, Conn.

### K-D ELECTRIC SIDE & TAIL LIGHT OUTFIT FOR FORDS

This outfit consists of a pair of side lamps and a double bulb tail lamp, together with all necessary wires, terminals and switch. The side lamp bulbs are special low voltage, wired to the dry cells for use while the car is standing. The other tail lamp bulb is a high voltage wired directly to the magneto and using the head lamp switch which is now on the car. When the head lamps are turned on the switch also operates the tail lamp, giving a signal while the engine is running. Each outfit packed in an individual carton complete with wiring diagram. A case contains 24 outfits. Price \$6 per carton.—K-D Lamp Co., Cincinnati, Ohio.

### MORGAN AUTOMOBILE LICENSE HOLDER

This is a small container which may be carried on the keyring and is intended for carrying the owner's license card. Owing to license forms varying in different States, the holder is made in two sizes. Price 25 cents.—Morgan Mfg. Co., Inc., Keene, N. H.

### TROJAN ROLLER BEARINGS FOR FORD WHEELS

This is a set of inner and outer taper roller bearings for Ford or Chevrolet 490 front wheels. The bearings are interchangeable with the existing bearings without any machine work, and it is only necessary to dismount the wheel, insert the new bearing and replace the wheel.—Ahlberg Bearing Co., 2636 Michigan Avenue, Chicago

### VICTOR SPARK PLUG

This is a spark plug employing an external ignition chamber to keep the spark gap out of the cylinder. By removing the screw plug in the chamber the electrodes of the plug can be seen and adjusted without removing the plug from the cylinder. A priming cup is also part of the device and this is located on top of the chamber. Price \$2 each, or \$1.75 without primer.—Victor Spark Plug Co., 250 Devonshire Street, Boston.



### **Two Separate Steps**

Keep these two steps distinct: First convince a man that he needs a truck—then show him that your own make is the best for his use.—A. S. Austin, Republic Trucks, Kansas City.

### **Make Sure It Fits**

No used truck is sold by us unless we are sure it will give the customer a reasonable amount of service.—A. S. Austin, H. A. Dougherty Motor Co., Republic Trucks, Kansas City.

### **Guarantee Own Used Trucks**

We rebuild Republic trucks and guarantee them practically as new. Other makes we put into good running condition.—A. S. Austin, Republic, Kansas City.

### **Work the Live Ones**

An agent with initiative will recognize at a glance whether a man needs a truck or not—and let him alone, saving valuable time, if he does not.—M. A. O'Mara, the White Co., Kansas City.

### **Hunt the Shipping Clerk**

When I am hunting prospects I go to the back door—to the shipping clerk. If his firm is using teams I investigate why it could not use trucks to better advantage. The shipping clerk is the man who knows.—M. A. O'Mara, the White Co., Kansas City.

### **Don't Worry Over Data**

We are equipped with comparative data to show a man how he can better his haulage system by substitution of motor trucks for horse-drawn equipment. But for the past three years it has not been necessary to devote much time to that phase of the question, as the public has general knowledge of the superiority of motor trucks over horse-drawn haulage in most instances.—Edward T. Ash, Aull-Ash Co., Columbus, Ohio.

### **Cultivate a Broad Mind**

A man to be a good salesman must have a broad vision, a broad idea of trade usages, of the mechanical opportunity to get the greatest efficiency for the trade.—M. A. O'Mara, White Co., Kansas City.

### **Study Uses of Truck**

Push the motor truck. It has a brighter future in this particular

## **SELL TRUCKS**

**Make Money in 1919**

**Make More in 1920**

*More truck ideas on pages 33 and 34*

locality than has the tractor even, at any rate for the immediate future. It appeals to more farmers. The 1-ton truck is big enough for the average farmer. And I notice this, too, about both trucks and tractors: Once the farmer has either, he finds a lot more for it to do than he even dreamed of at first. They grow on him with use. This suggests looking for instances of what various farmers use trucks and tractors for and using these things as selling arguments when soliciting new sales.—F. Le Cocq, Star Automobile Co., Ford and Fordson, Pella, Ia.

### **Met an Emergency**

When the influenza epidemic got so bad at Newton, Ia., that the facilities of the small local hospital were unable to cope with the great number of patients requiring care, the Motor Sales Co. stepped into the breach. Not only did the company advance \$600 to pay a month's rent on one of the local hotels to be used as a temporary hospital, but it converted a new Dodge panel body delivery wagon into an emergency ambulance and put it at the service of the community. Obviously the company did not lose anything in the estimation of the people.

### **Good, If—**

We have been able to make truck salesmen out of some motor car salesmen who have leanings for transportation cost figures and who are not married to selling a certain machine.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis, Mo.

### **Show Service Possibilities**

The long suit in selling trucks is to show the service possibilities. Truck owners have come to realize the importance of service, and it is a more convincing argument constantly.—C. E. Lightfoot, manager, G. M. C., St. Louis.

### **Service on the Street**

The best way to sell trucks is to give service on those you have on the streets. The cheapest and best

service is that which reaches the truck under all conditions and at all times. Hence you must work through an inspector or the chauffeurs.—James H. Smith, superintendent, Federal Truck Co., St. Louis.

### **Sell Them Billboards**

A winning argument in selling commercial cars, made from Dodge cars with the Graham attachment, is to sell them as moving billboards, to be charged to the advertising account. Usually delivery companies supply such cars that this argument wins with the firms that have any pride.—Frank R. Tate, president, Tate-Gillham Motor Car Co., St. Louis.

### **Trucks Save Farm Time**

I show the farmer that the motor truck is the biggest piece of time-saving equipment he can own. I demonstrate to him that with a motor truck he can make four trips in the same time it would take his horses to make one. This 4-to-1 ratio holds on all the work a truck will do, and it is not difficult to sell trucks when you can furnish the proof of facts like that.—E. J. Hauptert, manager, Rude Auto Co., Perry, Iowa, Ford and Fordson.

### **Pick Your First Prospect**

When I started in to sell motor trucks I picked out a man who lives 11½ miles from town. I decided that if I could sell him, I could sell anybody, while the mere fact of his owning a truck would bring me sales among his neighbors. I prepared my plan of attack carefully and waited for an opportunity to spring it. This came on Decoration Day a year ago. My man came to town to celebrate and I tackled him. He didn't get any time to celebrate and neither did I, much to the disgust and disappointment of my family, but I sold him that truck.

Well, it wasn't long before his neighbors got wise to the fact that he was making four trips to town in one day, hauling grain or live stock or anything else he had to market, while they, with their horses, were making but one. This they couldn't stand, and now, right around that first truck I sold, and between that and town, I have twenty trucks placed. That shows how it pays to pick a customer in a strategic locality. Following that one sale I sold 51 trucks last year and expect to sell 75 this year.—E. J. Hauptert, manager, Rude Auto Co., Perry, Ia., Ford and Fordson.



## WILLIAMS WRENCH SETS

These are sets of 22½ deg. double-end wrenches in sizes from ¼ to ¾ in., furnished either unfinished, semi-finished or finished and either 5 or 8 wrenches are packed in a roll. Set No. 9 includes 7 double-end wrenches, and the price, complete with roll, is \$2.67 unfinished, \$3.72 semi-finished, or \$5.39 finished.—J. H. Williams & Co., Brooklyn, N. Y.

## HARTON LOOSE-LEAF SYSTEM

This is a loose-leaf billing system in which the bills which are sent to the customer are interleaved with ledger forms. There are four bills to each page, these being perforated so that they can be torn out and the itemized bill be entered on the ledger on the opposite side. Price \$40, complete with 1000 leaves, binders, indexes, etc.—J. Harton & Co., 212 Church Street, New York City.

## TOQUET CARBURETER FOR FORDS

This is a carbureter for Fords. It has double jets, each independent of the other, permitting of low throttling without affecting the high speed. The low speed fuel is carried ahead of the carbureter proper directly in the path of the intake manifold. This allows a rich mixture to get directly into the intake manifold. There are no moving parts and one adjustment is permanent and takes care of both high and low speed. Price \$15.—Toquet Mfg. Co., Westport, Conn.

## WILLIAMS SPOT LIGHT

This is a spot light with a hyperbolic reflector made entirely of brass. The brass is nickel plated and then silver plated and the enamel on the outside is air brushed and baked. The reflector is swaged to the lamp support. Made in two models: A 6 in. and B 7 in. Either model can be fitted with the Williams Rervu which is a convex diminishing mirror measuring 3½ in. in diameter. The switch on the spot light is conveniently located and protected against moisture and dust by the main lamp support and a nickel plated metal switch cap. The three-point contact bracket is short and rigid. It is adaptable to either straight, oval, round, tapered or channel windshield support. The bracket has an adjustable vertical motion which prevents the light from being thrown in the eyes of approaching motorists.—Williams Mfg. Co., 125 West Thirty-fifth Street, Los Angeles, Cal.

## Like a Grocery Store

Much of our success is due to the arrangement of our stock. It is just like a grocery store. Everything is in sight.—R. E. Samis, Samis Auto Supply Co., Kansas City.



Williams Wrench Sets



Crowe Mechanical Belt

FORM 914-2

MACK'S TIRE SHOP  
VULCANIZING IN ALL ITS BRANCHES  
256 MAIN STREET  
Hartford Conn.

FORM 914-3

BARTEN GARAGE  
AUTOMOBILE REPAIRING  
Supplies of all kinds—Automotive House

FORM 914-6

OSCAR SCHULTZ  
Meats, Fish & Fruits  
EVERYTHING IN SEASON

FORM 914-4

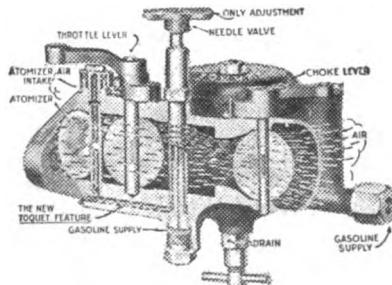
GUARANTEE TIRE CO.  
AUTOMOBILES & ACCESSORIES  
Hartford Conn.

GUARANTEE TIRE CO.  
AUTOMOBILES & ACCESSORIES  
Hartford Conn.

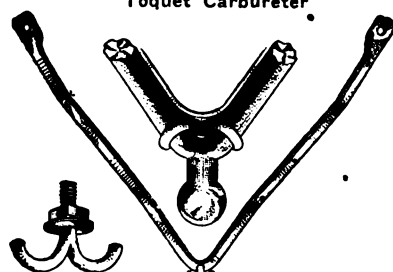
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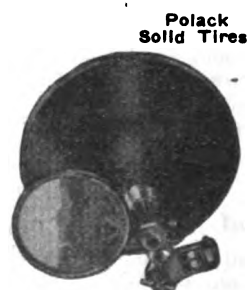
Harton Loose Leaf System



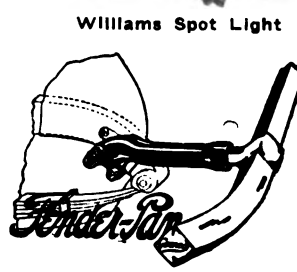
Toquet Carbureter



Perfection Radius Rod



Polack Solid Tires



Gemco Fender-Pan Bumper

## CROWE MECHANICAL FAN BELT

This is a fan belt made up of a series of wire links, steel links and sole leather blocks. There are three parts to each link and by sliding out any leather section the chain opens and is closed when a leather section is replaced. Any number of links can be added or taken out. No metal touches the pulleys and no change in pulleys is necessary. Price \$1.25 for Fords to \$3 for Packards.—Mechanical Belt Co., St Joseph, Mo.

## POLACK SOLID TIRES

These are solid rubber truck tires made only in the pressed-on type. A special process is used to insure uniform adherence of hard rubber to the steel base and a special binder between the hard rubber and the tread rubber. The Polack regular is made in sizes from 34 x 3 to 40 x 7, at prices from \$40.90 to \$125.10. The Polack High Crown is made in sizes from 34 x 3½ to 40 x 7, at prices from \$60.60 to \$177.30. Polack Tyre and Rubber Co., Broadway at Sixty-second Street, New York City.

## GLIDDEN FINISHES, VARNISHES AND DRESSINGS

Glidden Endurance Auto Finish is made in a variety of colors for bodies, fenders, gears, wheels, springs, hoods, etc. The finishing varnish is clear and puts a high gloss over the color finish and may also be used to restore old finish. Mohair and leather dressing are for renewing, waterproofing and preserving the respective articles to which they are applied. The dull black lamp enamel is for use on brass, nickel or iron.—Glidden Co., Cleveland, Ohio.

## PERFECTION RADIUS ROD FOR FORDS

This is a radius rod for Fords made of angle iron 1 x 1 x ¼ in. The eyelets are strengthened where the bolts attach to the axle and the twin hook bolt grips the radius rod at the ball socket and prevents it from moving forward or backward. Price 75 cents.—Dow Wire & Iron Works, Louisville, Ky.

## GEMCO FENDER-PAN BUMPER

This is a bumper with two heavy forged hooks which clamp to the lower flange of the frame, with the result that the flange pan and fender are not interfered with. It can be attached to the front of nearly all standard cars and to the rear of many. Made in channel and diamond-shaped frames and finished either in nickel or black.—Gemco Mfg. Co., Milwaukee.



# Don't Go Backward



*The old ways may be easier, but what the trade needs is aggressive, fighting dealers*



# Watch Your Step

**MAKE MONEY IN 1919**

**MAKE MORE IN 1920**

## New Ways That Old Dealers are Using to Get Efficiency in Business

*[Read Them All—and USE Them]*

### System Shows Who Pays

A proper cost system quickly shows which are the most profitable salesmen. It is not always the man who sells the most cars.—Joseph A. Schlecht, president, Mound City Auto Co., St. Louis.

### Read This, Dealers!

Harry G. Moock, business manager of the N. A. D. A., conducted a cost keeping campaign while he was secretary of the Rock Mountain Automobile Trade Association. He tells these stories and observations:

I was in a shop one morning when a boy drove in a truck, ran over a floor broom and broke it. The manager said nothing to any one but me. He invited me to come back at quitting time. Then he assembled all of the men and remarked:

"Boys, there was a floor broom



broken here to-day because it was out of place. Last year this department made 4 per cent profit. We will have to sell \$100 more this year to make up for that broom. That's all. Good night."

Another of our members in Denver went into his basement and found many lights burning but no one working there. Instead of putting them out, he called in an electric light man and asked him to compute the expense of such carelessness for a year. It was \$200.

My experience has been that so many dealers do not know what constitutes overhead and how to

spread it over the various departments. I know men who figure that if a part costs them \$12 at the factory, transportation \$1, they figure a sale at \$13 as a \$1 profit. Then they wonder why they go broke.

I knew a general manager of a departmentized plant who keeps a time record on himself. If the shop calls for him and he spends an hour there, he charges that much of his day's pay against the shop as direct overhead. He says: "If they did not need me they would not call for me. It is up to the head of the shop to do business to pay for that time." The uncharged part of his time is charged as overhead and spread by rule over the departments.

On a recent trip from Denver here, while the train stopped at a Missouri town, I read a sign on the upper wall of a garage. It was: "Our Terms Are Cash."

I could not read the firm name, but to make sure that it was a motor car business I asked a man who got on at that station. That firm had kept cost accounts enough to know where the biggest leak was, and they stopped it in the biggest letters possible. Too many garagemen think of terms last.

Some dealers charge travel expenses and such things as a certain per cent against total business. Some of these men are still working on a 1915 basis. Their per cent against the small amount of business last year was the same as against the greater business this year. Some of them have not taken notice that a trip to the factory costs twice as much. Cost rules, once made, do not always apply. The only way is to keep an itemized account up to date.

*More efficiency ideas on page 75*

### Make Men Specialize

Classify your men according to their ability—give each one those jobs only which he can do the best. That's what I do and it gives me a greater percentage of return on my labor costs. I have nine men in my shop department. One man does all the engine work because he is expert on such jobs. I have a radiator man and a wheel man and men for tops and the like. Concentration on one class of work makes each one an expert; he can develop his aptitude to the greatest extent and our shop turns out more and better work in consequence.—A. L. Fallein, shop foreman, Rude Auto Co., Perry, Iowa, Ford and Fordson.

### He Departmentizes

Organization and departmentization spell success in the automotive business to-day. I



have my business divided into five departments with a man at the head of each department whom I hold responsible for the conduct and results of his section. Every Monday morning we have a conference of department heads at which the work for the week is mapped out. E. J. Hauptert, manager Rude Auto Co., Perry, Iowa, Ford and Fordson.



### **Sell Your Organization**

I try to impress upon the mind of every man and woman in my employ—and there are 26 of them—that each owes an obligation to the company over and above the mere working for it with hand and brain. We can't sell automotive wares without prospects to work on. Our force comes from all walks of life. Each person has connections, social or otherwise.

Somewhere among those connections there is one or more prospects. It is the duty of the individual employee to dig up the prospects in his station and report them to the organization. In other words, this gives each a sphere of influence in which he can work for the good of the business. Thus we draw from all classes of people and each one of our force feels he has a personal interest in the advancement of the business as a whole.—E. J. Hauptert, manager Rude Auto Co., Perry, Iowa, Ford and Fordson.

### **He Departmentized— \$78,000**

It pays to departmentize in the automobile business. For instance, we have one man who does nothing else but sell tires. Last year our tire business amounted to \$78,000. Our man makes this one of the most profitable departments of our business. Competition is so keen in the tire business these days, and competitors continually are springing so many schemes for selling, that it takes all the ingenuity and resources of one man who does nothing else to keep pace with them. It pays to departmentize and have a good man at the head of such a department as tires.—Swaney Motor Co., Carroll, Iowa, Ford and Fordson.

### **Systematizing Service**

We secured a new man to have charge of our service station, and we believe that we will soon have a system where there will be absolutely no complaint. We are systematizing every feature of the work and have spent a great deal of time in devising plans and

## **BE EFFICIENT**

**Make Money in 1919  
Make More in 1920**

*Read page 9 again*

methods.—Oscar Lear, president, Oscar Lear Motor Co., Columbus, Ohio.

### **Simple, Wasn't It?**

A cost system showed us that our service shop was not making money and why. We used the results to make our prices so that the shop would make money.—W. L. Johnson, Johnson Automobile Co., St. Louis.

### **Keep Accurate Records**

I began to realize the necessity of keeping accurate accounts when a man offered to buy me out. My books—the sketchy accounts I kept—didn't show what I had in the way of machinery, automotive equipment and used cars, or what the business was paying. I didn't want to sell any way, but got to figuring just what the business was worth—and so have got into the habit of keeping pretty strict account, and am soon going to employ a bookkeeper to do the thing up right, as I increase my stock and business in equipment, and open this extra storeroom next door.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Know Sales Figures**

The most useful sheet of paper in a sales office is that on which records of cars sold by months and by salesmen and other details are kept. It supplies the text for salesmen's meetings and for judging business against former years. The man who goes before the salesmen to talk cannot have too much accurate detail.—H. Milton Koenig, publicity manager, Weber Implement & Auto Co., St. Louis.

### **Know Costs**

Any cost accounting system to be effective must report losses or the slow down of any department to the head of the institution in time to catch that evil while it is working. Many good men can be saved to a service by reaching them while they are discouraged and giving to them a bit of help. At the end of the month this may be too late.—Frank R. Tate, president, Tate-Gillham Motor Car Co., St. Louis.

### **Cut Credit Losses**

One year, on \$30,000 of business, I lost \$2,000 from giving credit. The loss was not so much in bad accounts as in the reduction in amount collected because of adjustments necessary. The owner who pays a bill three months old can't understand how it could be so big, and to get the money I have conceded this and that. They'll pay all when a little is conceded if they have stalled you off temporarily with a complaint as to the charge. I have cut out credit to the people that have to have adjustments, but on many accounts render bills monthly, payable by the tenth.—J. L. McMahon, Westport Garage Co., Kansas City.

### **Compulsory Inspection**

Our service department cost investigations have convinced us that it is the cheapest method to insist that car buyers bring in cars for inspection at least once a month for six months.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

### **Night Work Doesn't Pay**

Cost investigations convinced me that night shop work was unprofitable. I cut it out.—W. L. Johnson, president, Johnson Automobile Co., St. Louis.

### **Why Daily Costs**

A daily cost account on a department often gives you a chance to go and help a department head out before he gets so discouraged that he loses faith in his job and slumps.—Frank R. Tate, president, Tate-Gillham Motor Car Co., St. Louis.

### **Found What Not to Do**

A Kansas City garage owner learned more from the books of his predecessor on "what not to do" than from any other source. He found there unpaid bills for storage; a loose method of checking cars in and out that resulted in inability to make out true bills; a lack of system in entering accounts that made it difficult to identify and find accounts when wanted; failure to foot accounts by week or month, and failure to keep track of expenses, the result being that the new owner had no basis for figuring costs. The new owner picked out the weak spots in the bookkeeping system, the features that didn't tell him what he wanted to know, and strengthened them first.



### CASCO COIL BOX PRO- TECTOR FOR FORDS

This is a protector to prevent water and dampness from getting through the dash to the coil box on the Ford. Ten sleeves are made into the protector and these sleeves fit around the porcelain insulators that project from the back of the Ford coil box. A curve at the upper edge of the shield keeps all the water on the outside and the sleeves prevent the water from short-circuiting the terminals.—Cooper Auto Supply Co., Thomasville, Ga.

### M. & S. DIFFERENTIAL

This is a differential with two or more spiral or worm pinions located in the differential housing and rotated by the engine. There are also two crown worm wheels, one attached to either driving wheel. In addition there are worm gears interposed between the pinions and the crown wheels, the teeth of which are shaped to correspond. These worms are mounted in the differential casing with their axes at right angles to those of the pinions. The angle of the worms is such that while the crown wheels can drive the worms the worms cannot drive the crown wheels, and as a consequence the differential is locked when one wheel loses its traction, although the ordinary differential effect is not interfered with when both wheels are on good ground.—M. & S. Corporation, Detroit.

### BOWER ROLLER BEARINGS

This is a set of roller bearings in which the roller is parallel and there is a flange on one end to take end-thrust. The bearings are self-aligning and the raceways are parallel at all times. Made in over 200 different sizes at prices from \$4.95 to \$59.—Bower Roller Bearing Co., Detroit.

### GOBELIN CLOTH

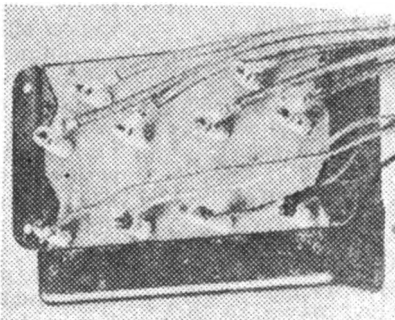
This is cloth for upholstering a car and is made on the idea of the famous Gobelin tapestries of Europe, with designs in rich but sane colors. The weave is such that it will not show any impression or patterns on an evening gown, and it does not hold out.—Louis Dusenbury & Co., Inc., 229-233 Fourth Avenue, New York City.

### HASTINGS DECARBO

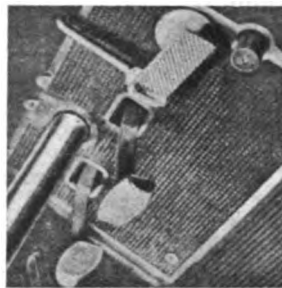
This is a steam decarbonizing device. Heat is obtained from the exhaust manifold to turn the water which is contained in the little cylinder into steam and this steam enters the intake manifold and goes into the cylinders with the mixture. The operation is automatic and a valve checks the flow of water when the engine is stopped and automatically opens it when the engine starts.—Hastings Mfg Co., Hastings, Mich.

## You Must Advertise

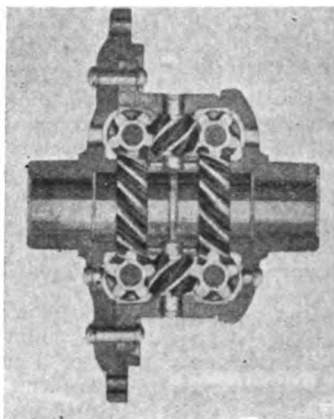
An automotive equipment dealer cannot make much money unless he advertises. We run a special ad. in the Sunday newspapers each week and in our salesroom placards are posted, calling attention to our equipment department.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winton, Kansas City.



Casco Coil-Box Protector



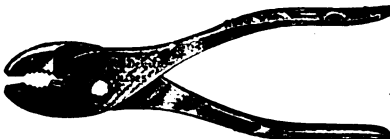
Feaster Foot Accelerator



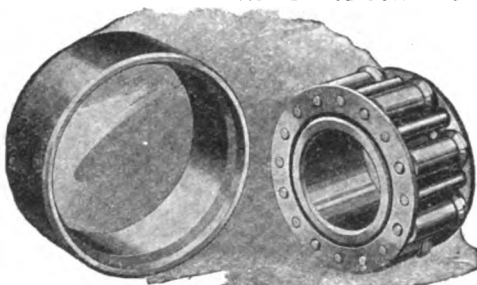
M. & S. Differential



Burke Ox-iliator



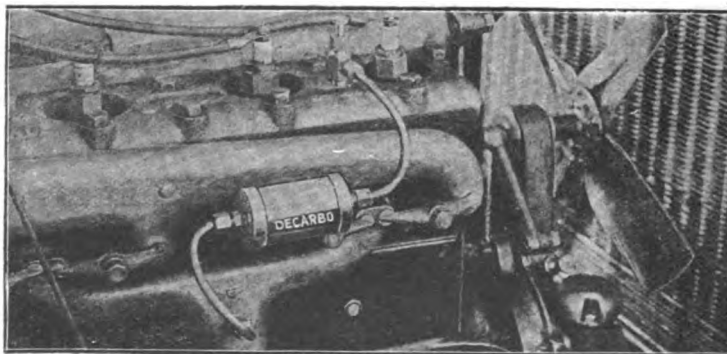
No. 925 Red Devil Pliers



Bower Roller Bearings



Detroit Steering Wheel



Hastings Decarbo

### FEASTER FOOT ACCEL- ERATOR

This is a foot accelerator which operates sideways under the ball of the foot. It is as large as the average brake or clutch pedal and extends entirely across the width of the shoe. The top plate is pivoted directly under the foot and when the foot is tipped sideways the whole plate moves with it. It is not affected by direct up and down motion. The device can be attached to any car having a foot throttle and the base is attached to the floor at the side of the present accelerator. Price \$3.75.—Peter Gray & Sons, Inc., Third and Binney Streets, Cambridge, Mass.

### BURKE OX-ILIATOR

This is an air moistener for supplying moisture to the mixture in the intake manifold. It consists of an aluminum shell open at the top and a glass vacuum chamber fitted to the top. There are two air inlets through which the air enters the distributor, breaking it up into minute streams. A connection is made between the vacuum chamber and the intake manifold by means of a copper tube. A check valve is placed in this connection to prevent damage in case of back fire. A valve automatically introduces additional air, depending upon the speed of the engine. Price \$10.—Automobile Devices Co., Real Estate Trust Building, Philadelphia.

### No. 925 RED DEVIL PLIERS

This is a pair of pliers to grasp regular or irregular objects, nuts, pipe or rods. The cutters are made parallel when open so that they will not push the work forward. Double adjustment enables the plier to be used for a wide range of sizes. Made in lengths of 6½, 8 and 10 in. Finishes in gunmetal or nickel-plate. Packed one in a box, six in a carton.—Smith & Hemenway Co., Inc., 114-130 Colt Street, Irvington, N. J.

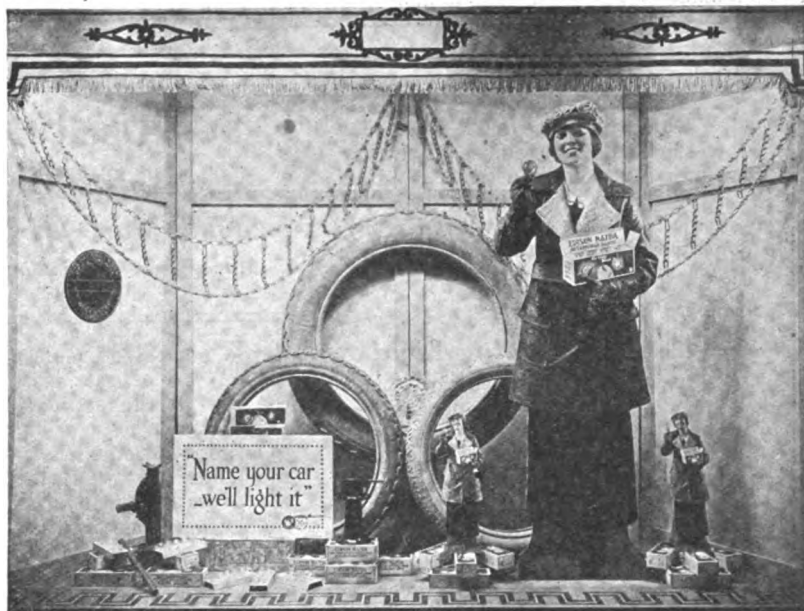
### DETROIT TILTING LOCK- ABLE STEERING WHEEL

This is a tilting lockable steering wheel made in two diameters and four styles. The lock is put in operation when the steering wheel is in the driving position, and it operates by disconnecting the spider from the shaft, allowing the wheel to spin around on the shaft. When the wheel is in its tilted position it gives a clearance of approximately 7 in. Special size for Fords finished in black enamel, 16 in. in diameter, corrugated maple rim, price \$17. Polygon Corrugated Rim, either 17 or 18 in. in diameter, \$27.50. Round Corrugated Maple Walnut Rim, either 17 or 18 in. in diameter, \$23.50.—Detroit Steering Wheel Corp., Detroit.



# 2

## Things for you to Read

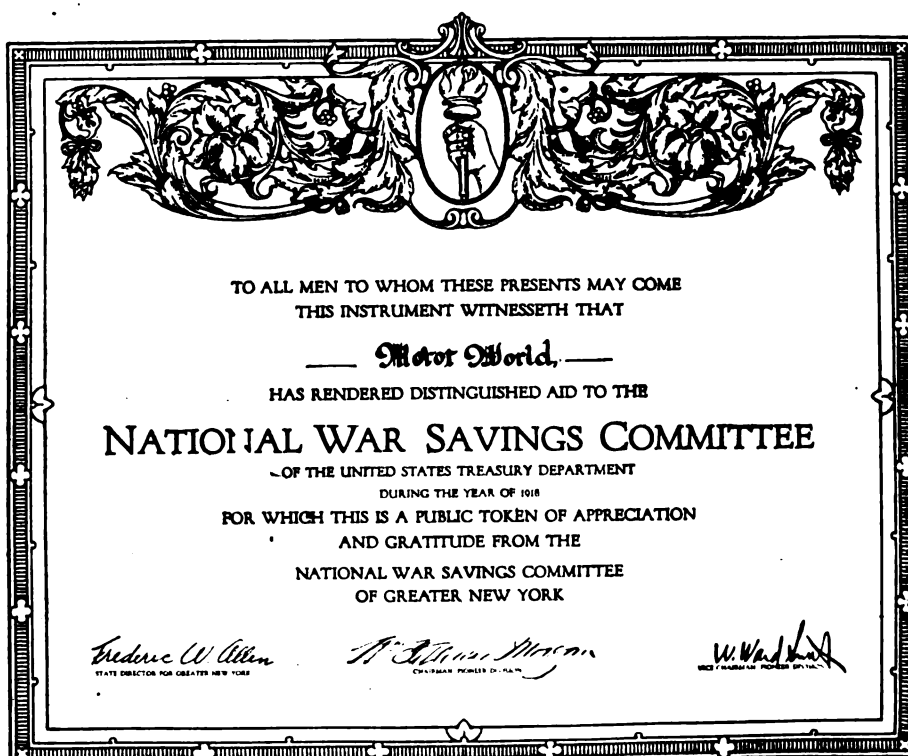


## READ No. 1

The two window pictures on this page are from the Edison Lamp Works of the General Electric Co., Harrison, N. J. To some dealers they will be just a pair of windows. To other dealers they will be an opportunity for making money, just as some dealers see opportunity in everything while others pass up enough opportunities to make them wealthy. The dealer who gets on is generally the man who takes good ideas and USES THEM. This issue is full of ideas. How many of them are you going to use?

## And Now— READ No. 2

At your right you see a certificate of appreciation sent to *MOTOR WORLD* by the National War Savings Committee for assisting in the sale of War Savings Stamps. It is only one of numerous things that *MOTOR WORLD* has done because it believed they were movements that should be supported. Seldom does *MOTOR WORLD* talk about itself, but we're rather proud of this testimonial of aid in the great emergency through which we have just passed. We would rather have our readers talk about us than talk about ourselves. Self praise is not of much value. We cannot miss this chance, however, of asking YOU what you think of this **SUMMER MERCHANDISING NUMBER?** Drop us a line and tell us how you like it—providing you do like it, and if you don't like it tell us why also.





### ***Tell the Whole Truth***

Truth takes the most kinks out of the used car business. If the car has a fault and you know it admit it or tell it. Never let a used car come back because it was misrepresented.—Tom Robertson, used car salesman, Weber Implement & Auto Co., St. Louis.

### ***Restrict Trading Field***

In establishing a used car department for our retail department here I have found that it has greatly simplified matters that we are positively restricting trade-ins to only a few lines of light cars. We place an arbitrary maximum price on these cars for each year, which must be reduced according to condition.—Henry W. Spalding, manager retail store, Chevrolet Motor Co. of St. Louis, Inc.

### ***Sticks to Own Line***

We have simplified the used car situation by sticking as closely to Dodge cars, our new car line, as closely as possible. Also we buy used Dodge cars whenever offered if possible. We make the Dodge our leader in the used car department too.—Frank R. Tate, Tate-Gillham Motor Car Co., St. Louis.

### ***Junks the "Off" Ones***

A used car department can make or break a retail automobile business. We keep the older stuff moving and we demand that each used car at least pay its overhead and we figure that if we make an average of \$25 on each car it "pulls its own freight." We will take such used cars as Maxwells, Buicks, Dodges and Chevrolets at market value, depending on the condition of the car; but other cars not on our list and not in particularly good shape we take only at so-called "junk" prices, or what they will bring as scrap. In this category are what we call "orphan" cars, or those no longer made. In such cases we call up houses that deal in parts and arrange to turn them over as quickly as possible. We would rather keep new cars on the floor unsold than get tied up in the used car department. Don't trade your head off—that is, don't take too long accounts; and try to turn used car purchasers into new car owners.—O. S. Compton, sales manager Z. S. Vertner Motor Sales Co., Philadelphia, Oakland distributor.

### ***Adds \$50 Overhead***

We present a car to a purchaser in such a way as to assure him he is getting value received. First,

## **Sell Used Cars**

***Make Money in 1919***

***Make More in 1920***

*More used car ideas on pages 20-47-78*

we do not let the salesman quote the low price first, as it cheapens the car in the estimation of the prospect, and he expects the figure to be cut before he leaves the sales-room, anyway. The tendency for the average salesman is to quote the bottom price first and this must be overcome. We placed an overhead charge of \$50 on each car as it comes in and we usually get our overhead back. Our policy is to send a used car to the paint shop, thoroughly overhaul it, put on new tires and sell it with the same guarantee as a new car. We try to educate customers to King ways so that they will buy new King cars eventually.—E. W. MacQuivey, sales manager Parker Motor Sales Co., Philadelphia.

### ***Get Fair Treatment***

We always sell the new car first. Then if the purchaser is a business man we tell him frankly that we will not take in a used car at a price where we cannot handle it and he does not expect us to do so. The purchaser usually is fair and we have little trouble on that score. But our point is to sell the new car first.—O. C. Belt, president Belt-Franklin Auto Co., Columbus, Ohio.

### ***How He Did It***

A Kansas City used car department manager quickly put a run-down department on its feet by requiring all used cars to be in good condition when offered for sale, and taking all prospects for a spin in the cars they looked at.

### ***Overhaul 'Em All***

A car that we tried to sell "as is" has eaten up about a hundred dollars' worth of rent already, and now we've got to spend money putting it into runable shape. Now, we overhaul 'em all.—Fred L. Ermis, Moriarty Motor Co., Kansas City.

### ***Make 'Em Buy New Cars***

Used car prospects who haven't been sold in the past two years have largely become new car prospects. We are building up fresh lists of used car prospects.—Fred L. Ermis, Moriarty Motor Co.

### ***Sell on Commission***

Our used cars are greatly simplified by restricting the lines that we will trade in. When other cars are offered to us we undertake to sell them for the owner for a commission of 10 per cent, which pays for storage for a limited time and for ordinary advertising.—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

### ***Quick Action on Trading***

We're not far from Des Moines. When a man wants to trade in an old car and it looks like a fair deal we just take him in tow, hop the train and introduce him to the used car exchange in Des Moines. There he gets a value put on his car that is authentic and back of which he can't go. If he decides to sell we usually arrange to have the purchase check given him turned over to us to apply as a deposit on a new car. This plan saves us from any controversy with the customer over the value of his old car and leaves no hard feelings in his mind.—Dunlap Motor Co., Ames, Ia., Ford and Fordson.

### ***Turn 'Em Fast***

The reason the used car isn't much of a problem for me is that I get rid of them as soon as possible.—Prince Wells, Nash, Louisville, Ky.

### ***Must Net \$100***

We don't trade in a used car unless we can make \$100 profit on it in addition to the expense necessary to overhauling and getting it ready for the market. At present we have only one used car in stock and are not particular about selling it as we may use it for a service machine. We can't get enough new models to supply the demand.—F. T. Sullivan, sales manager, O. K. Motors Co., Hupmobile, Louisville, Ky.

### ***"Not Used Car Dealer"***

One of our methods for taking kinks out of the used car business is to advertise extensively and always mention the fact we are not "used car dealers," and that every car we have for sale was taken in trade on a new Chandler. This has served to acquaint the public with the fact we are not in the class of exclusive used car dealers or the curbstone men, and has created confidence in our reliability. The plan works so well that we often are short of used-car stock.—Carl C. Gildner, manager used car department, Earl V. Armstrong, Inc., Los Angeles.



## ***Sell in 30 Days***

Used cars must be sold in thirty days—we won't have them hanging around even if we have to cut the price to sell. That quickly puts the issue up to us that we allowed too much on the car or had to spend too much to make it run—we take the loss and the lesson.—Fred L. Ermis, Moriarty Motor Co., Mitchell and Standard, Kansas City.

### Sets Safety Limit

Salesmen always are anxious to load a firm up on trade-ins, so the first thing I did to keep kinks out of the used car problem was to establish a figure that represented the aggregate value of used cars that we would let be on hand at any one time. By rigidly enforcing this rule we have avoided a lot of trouble. As soon as the limit is reached, all salesmen are permitted to sell used cars until there is sufficient leeway to permit of more trades. Of course, cash deals are acceptable at all times.—H. C. McVey, Oakland dealer, Los Angeles.

## ***Stands Back of Every Car***

**We have taken one of the big kinks out of the used car business by letting it become known we stand squarely behind every used car we sell, the same as new cars. This serves to overcome the feeling of reluctance on the part of purchasers that they will be getting a car that has no sponsor. We always represent the car to be exactly as it is and set the price accordingly.—Ed. G. Harris, Irving Motor Car Co., Los Angeles.**

### ***Price on a Tag***

Many kinks get into the used car trade on the subject of price. Therefore we tag every car in our department, displaying the price. A prospective buyer can look at the tag and know for himself what the price is. This designated price is the only one we have and has been fairly arrived at. As the result we avoid quibbling, as there is but one price and we don't have to say, "Make us an offer."—John German, manager used car department, Ralph Hamlin, Inc., Los Angeles.

## Paints Every One

The buyer of a used car does not like to have it advertised every time he drives that his car was bought second-hand. Therefore we

## Sell Used Cars

***Make Money in 1919***  
***Make More in 1920***

**Read page 9 again**

repaint all used Apperson cars before offering them for sale and they have the appearance of being new. The cost of the repaint job is figured in on the selling price, but we never have had a complaint from an intending buyer that he objected to the car's appearance. The looks of a used car is half the battle in selling it.—G. L. Trotter.

manager used car department, Apperson Motor Car Co., Los Angeles.

## Fix 'Em First

Some of the troubles to the used car man can be overcome by putting every car in first-class mechanical condition before trying to sell it. The buyer does not like to tackle a car on the "as is" basis. He wants it to be mechanically right. Then, too, something can be accomplished by having the place of business ship-shape at all times. Keep the cars polished up and make the store look as if you were prosperous. This creates confidence in your business in the mind of the buyer.—Frank Riley, Southerland & Riley, Los Angeles.

## ***How the Dealers in Indianapolis Combat the Would-Be Long-Trading Prospect***

## Indianapolis Automobile Trade Association

## USED CAR SALES REPORT No. 9

**From March 1st to March 31st (inclusive) 1910**

**(CONFIDENTIAL)**

MAKE OF CAR	MAKE	Year	Type	Pass. Car	Station Wagon	C. W.	Pickup	CONDITION WHEN SOLD					
								4	3	2	1	0	
Brisson	34	1917	Touring	5	7	4	38	725	500				
Cole	5-50	1916	Touring	7	8	4	30	1700	1200				New Battery
Cadillac	60	1913	Touring	7	8	4	30	1200	300				
Cadillac	60	1914	Touring	7	8	4	32	1275		400			
Cadillac	55	1917	Touring	6	6	4	32	2300					
Chalmers	32B	1916	Touring	7	7	6	30	1400					Winter Top
Chalmers	34	1917	Touring	6	6	4	30	1000	500				New Top
Chalmers	R. G.	1916	Touring	5	6	4	32	1000	500				
Chevrolet (4ev.)	400	1916	Touring	5	6	4	32	725	500				
Chevrolet	400	1917	Touring	5	6	4	32	725	500				
Chevrolet	400	1918	Touring	5	6	4	32	725	500				
Chevrolet	400	1919	Touring	5	6	4	32	725	500				
Chevrolet	400	1920	Touring	5	6	4	32	725	500				
Chevrolet	400	1921	Touring	5	6	4	32	725	500				
Chevrolet	400	1922	Touring	5	6	4	32	725	500				
Chevrolet	400	1923	Touring	5	6	4	32	725	500				
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Chevrolet	400	2039	Touring	5	6	4	32	725	500				
Chevrolet	400	2040	Touring	5	6	4	32	725	500				
Chevrolet													

**The dealer who makes an excessive allowance on an old car is just as much a price cutter as the dealer who sells below the list price.**

*The Indianapolis Automobile Trade Association issues this report periodically to its members. The sheet is perforated for filing. The reports are issued frequently, which gives the dealer accurate home-town information on used car prices*



### SANDERS LOW-SPEED PEDAL LOCK FOR FORDS

This is a ratchet lock which locks the pedal in low speed, relieving the driver of the necessity of holding his foot on the pedal in low gear. It can also be used to hold the pedal in neutral position. The ratchet is tripped by a small lever on the steering column, and when the lock is to be used the lever is pushed down. This will free the ratchet, and when the low gear pedal is pushed in the lock holds it in this position until the lever is pulled up, which releases the ratchet.—H. W. Sanders, Rochester, N. H.

### BONNEY NO. 9 WRENCH SET FOR FORDS

This is a set of six wrenches with twelve openings, these twelve being sufficient to fit every nut on a Ford car. Price \$2.50 in cardboard box or \$2.75 in canvas roll.—Bonney Vise and Tool Wks., Inc., Allentown, Pa.

### EWALD TIRE RETREADER

This is a stapling device for fastening retreads or old treads to other tires for the purpose of securing additional mileage. The dies of the retreader press the two tires together and the staple is then forced through until it hits the upper die. This curves the points of the staple and forces them back into the casing again. An outfit consists of a retreader, two boxes of staples of different sizes, reliner cement, reliners and complete directions. Price \$20.—Zinke Co., 1323-1325 Michigan Boulevard, Chicago.

### GOODRICH NATIONAL BALL RETAINER AND SEPARATOR FOR FORDS

This is a set of inner and outer ball bearings complete with retainers and separators for Ford front wheels. The retainers are loaded with balls from the inside and can be replaced at any time by pressing the balls with the thumb through the inside opening. No machine work and no changes of any kind are required, the retainers complete with their balls being slipped in place of the regular ball bearings.—Goodrich-Lenhardt Mfg. Co., Philadelphia.

### BACKUS UTILITY LOCK

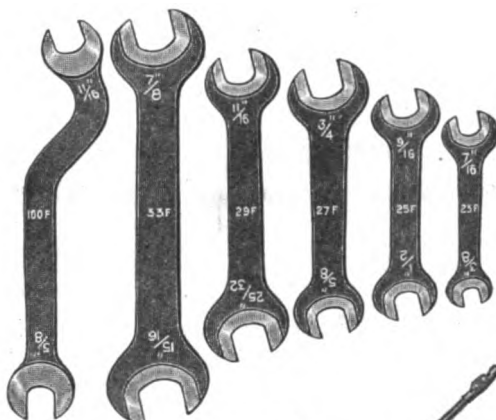
This is a lock with hardened steel jaw. The jaws open to 4½ in. and the teeth are rounded to avoid tearing goods. A ratchet arrangement allows locking in any position. It snaps on instantly. The lock can be used for locking robes, gloves, grips, etc. A different key combination is installed in each lock, no two being alike. Price \$1.50.—Backus Novelty Co., Smethport, Pa.

**Money Back Guarantee**

We are selling automotive equipment largely on account of the sign we always carry: "We refund your money if purchase is not satisfactory." Buyers know they will get exactly what they want or get their money back.—R. E. Samis, Samis Auto Supply Co., Kansas City.



Sanders Low Speed Lock for Fords



Bonney No. 9 Wrench Set



Ewald Tire Retreader



Backus Utility Lock



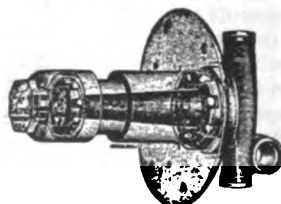
Long Henry Plug



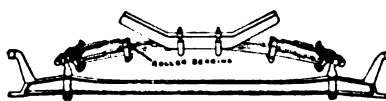
Rees Jack



Modine Spirax Radiator



Goodrich Ball Retainer and Separator



Defender Shock Absorber

### LONG HENRY PLUG

This is a spark plug for Fords. The long hexagon allows the plug to be turned with any kind of a wrench, and the long base puts the spark well down into the gas. There is also a special firing chamber designed to make the plug stand up longer in the front cylinder of the Ford.—Auburn Ignition Mfg. Co., Auburn, N. Y.

### NO. 1 REES JACK

This is a double-worm gear-drive jack in which the double rack forming the lifting bar is supported freely between the adjacent pinions and consequently divides the load between them. The worm gears on each pinion step down the forces and allow the worm shaft to float in the housing. There are only four moving parts. The capacity is 2 tons, height 10¼ in., raise 5½ in., weight 13 lbs.; price \$9.—Iron City Products Co., 7501-7511 Thomas Boulevard, Pittsburgh, Pa.

### MODINE SPIREX RADIATOR FOR FORDS

This is a radiator for Fords. It has increased capacity and increased cooling surface over the regular Ford radiator. The channels are large and the radiator stock heavy. Metallic contact is maintained between the spirals and the channels and the one piece channel construction and spiral braces provide strength. Made in two models, one for 1916 and earlier and the other for 1917 and later models. Price \$28 for either model.—Modine Mfg. Co., Racine, Wis.

### DEFENDER SPRING SHOCK ABSORBER

This is a spring shock absorber for Fords. A short three-leaf cantilever spring extends from each spring hanger on both the front and rear axles, and the master leaf of this cantilever spring bears against a roller bearing which is mounted about half way up the main spring. As the body moves up and down the spring bears against the roller, exerting a pressure in the opposite direction to the normal spring pressure.—Defender Auto-Lock Co., Detroit.

### HENDERSON TIRE

This is a fabric casing with non-skid tread, made in sizes from 30 x 3 to 37 x 5.—Bucyrus Tire & Rubber Co. of Illinois, 1339 Michigan Avenue, Chicago.

### STAR CORD TIRE

This is a full-molded, oversized cord tire made on air bags, made with white walls bordered by a band of blue with white treads or with dark treads.—Star Rubber Co., Akron, Ohio.



# LIFE'S GREATEST "IF"

By Ray W. Sherman

**W**HEN Billy Benson started out as the Sennett dealer in Midvale he had every prospect of becoming a factor in life. The conference in Reilly's office this morning between Reilly and Tommy Trumbull was for the purpose of considering the names of two rival dealers, each of whom was ready to accept the Sennet contract.

Billy already knew he was through. He intended to keep on with his shop, to get another agency if he could, and, if he could do neither, to get a job and go to work.

"I'm sorry we've got to let Billy go," said Reilly, after the selection of the next dealer in Midvale had been made. Reilly scrawled aimlessly over his scratch pad.

"He's a likable boy," vouchsafed Tommy.

"Yes, everybody likes Billy—but he's no good as a dealer."

"If he had only——"

"Yes," Reilly interrupted, "if! Life's greatest 'if.' If he had only done a lot of things he didn't do he might be making a lot of money to-day. He might have moved his family onto Main Street, as he wanted to, instead of living in his father-in-law's house on a side street.

## The "If" Stood in His Way

"That 'if' was the one thing that stood in his way—and when you get all through the big 'if' was Billy himself. He hadn't discovered the fundamentals of how to get on in life. He didn't make the right start. He thought he did—I thought he did—but he didn't."

Tommy all along had felt sorry about letting Benson go. And now he hardly knew what to say, because he knew, from a business standpoint, the only wise plan was the gate for Billy.

"I remember Billy when he started as a dealer," Reilly continued, thoughtfully, still scrawling aimlessly on the scratch pad. And then after a moment he went on again. "He came through high school and was a smart boy. Everyone thought he would surely get on in the world. He could learn more in a week than some folks could forget in a year. He surely had the qualifications.

"And then, when he got out of high school, he thought he saw an opportunity in the automobile business, and I thought I saw an opportunity in Billy. I thought he had the makings of a good dealer, and, if he made good, I could see how he could branch out and make a lot of money

down around Midvale. He got married. They had a nice wedding, and everybody thought how fortunate the new Mrs. Benson was because she had won one of the brightest boys in Midvale.

"Billy took the Sennett agency, his father-in-law supplied him with some money, he opened a good little salesroom and started off in good shape. And that's about as far as he ever got."

"What ailed him?" asked Tommy—and he knew he would find out.

## Too Absorbed in Self

"Well," Reilly mused, "I guess it's best described by saying that he was too much absorbed in himself. He——"

"I thought 'himself' was the most important thing for a man to be interested in," interjected Tommy.

"Yes! That's right," replied Reilly, "but NOT the thing for him to become ABSORBED in. Being interested in a thing and absorbed in a thing are two entirely different matters. If Billy had had more interest in himself he wouldn't have been quite so absorbed.

"What I mean is this: When he was in school he was under the direction of teachers who told him what to do. And he did easily what he was told to do. That made him shine among the other students, and he won honors easily. He came to think he was a particularly bright fellow and deserving of success no matter what he tried. As for studying the reasons for success, that never occurred to him as being necessary.

"Wherefore, when he got out of school and up against the world he found himself in competition with a different proposition. He had to compete with men who won success because they worked for it in an intelligent way. He thought he would drift to success the same as he had done in school, but he didn't stop to realize that when he left school he left behind the driving hand that told him what to do. When he got out in the world it all depended on him—and he was a poor driver of himself.

"He couldn't get far enough away from himself to see how poor he really was. He kept looking at himself without measuring himself by the standards of success as they exist in the world of business. He couldn't see his own unshined shoes. He couldn't see that successful men in this business have well shined shoes. He couldn't look at his own shoes and say: 'As to shoes, am I doing as successful men do or am I not?'

"He couldn't see his illy kept salesroom. To him it was HIS salesroom, and he was so absorbed in himself and the salesroom that it never occurred to him to say to himself: 'As to the salesroom, does it look like the salesroom of a successful dealer, or doesn't it?' He couldn't measure himself by the standards of success as they exist in the business world.

"Time and again I talked with him about himself and his business, but his attitude was antagonistic. If we had stopped beside the road to talk about a horse in somebody's pasture, something that didn't belong to him, he would have talked freely and might have agreed that I knew something about it, but when it came to talking to him about anything that belonged to him his attitude right off the bat was antagonistic and he insisted that I was finding fault. He never seemed able to ask himself: 'Is Reilly right or wrong? And if he is right am I traveling the road to success?'

"In conversation he was a trifle loud and even became abusive with the few employees he had. If he had been all the time watching himself and measuring himself by the standards of success as they exist he would have scanned himself on this point and said: 'As to my conversation, is it like the conversation of successful men?'

"You see, he was so absorbed in himself—that's the only way I can describe it—that he never could look far enough to see anything else. He was like a man bowed over a desk with blinders on, working on a drawing. He can see the drawing but he can't see what the man next to him is doing. He can't see how his work measures up with that of other workers in the same line.

## Traveling in a Rut

"It's the same with salesmen, shop men, office men, with everybody. They get absorbed in themselves. They get into a rut, a routine—and there they stick, because they never look around to see who's outside and how they got there. Furthermore, trying to help one of these birds is like trying to interfere in a family fight—you always get the worst of it.

"And, as for Billy," concluded Reilly, "we can't spend our lives and our money trying to make him something if he won't help. He always says so and so would have happened IF—. He always rings in that IF. And he doesn't know when he says it that he has hit all the fundamentals of how to get along in the world."



**WORKRITE BOOSTER**

This is a device for supplying moisture to the mixture. It consists of a jar mounted on the front of the dash, connection to the intake manifold and jar and an air inlet to the jar. The air is drawn through the water. Price \$1.75.—Workrite Mfg. Co., Cleveland.

**H. B. LIGHTING AND BATTERY CHARGER**

This is a lighting and battery charging set for furnishing electric light and power and recharging storage batteries. The outfit consists of a generator with sliding base, field rheostat, charging panel, 6-in. pulley and the necessary connections. No switchboard is necessary. The generator is direct current, 110-volt, 1800 c.p.m., and operates from the line shaft or engine. The h.p. required is 4 at full load. It will recharge from one to six 6-volt batteries or their equivalent, in addition to giving illumination for the average garage.—Hobart Brothers Co., Troy, Ohio.

**HUDSON AUTOMATIC MANIFOLD AIR ADJUSTERS**

This is an automatic air inlet to be screwed into the intake manifold. At low speed a spring keeps the ball valve on its seat and does not permit air to be drawn in. As the engine speed increases and the vacuum becomes greater the ball is withdrawn from its seat and a proportionate amount of air is drawn in with the mixture. Price \$1.50.—Hudson Motor Specialties Co., 1932-34 Arch Street, Philadelphia.

**ALL-IN-ONE VALVE TOOL**

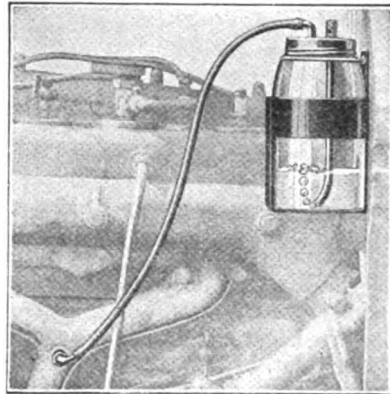
This is a tool for rethreading injured valve stems both inside and out. A tool on one end of the device removes the core. There is also a ratchet for the top of the valve. Shipping weight 2 oz. Price 15 cents.—E. G. Mfg. Co., 250 West Fifty-fourth Street, New York City.

**HART-BELL FOOT PUMP.**

This is a foot pump with cylinder  $1\frac{1}{2}$  in. diameter by 20 in. long, which screws into a heavy, malleable iron base. The plunger is of heavy, cold rolled steel with hardwood handle. The rubber hose is five-ply and 30 in. long, with brass screw connections to fit any standard tire valve. Finished both inside and outside with Parker process to prevent rust. The leather bucket slips over a conical projection of the base of the pump every time the plunger goes down, and this spreads out the circumference of the washer, insuring a tight fit. Price \$4.—Hart-Bell Co., Inc., 1926 Broadway, New York City.

**Buy Judiciously**

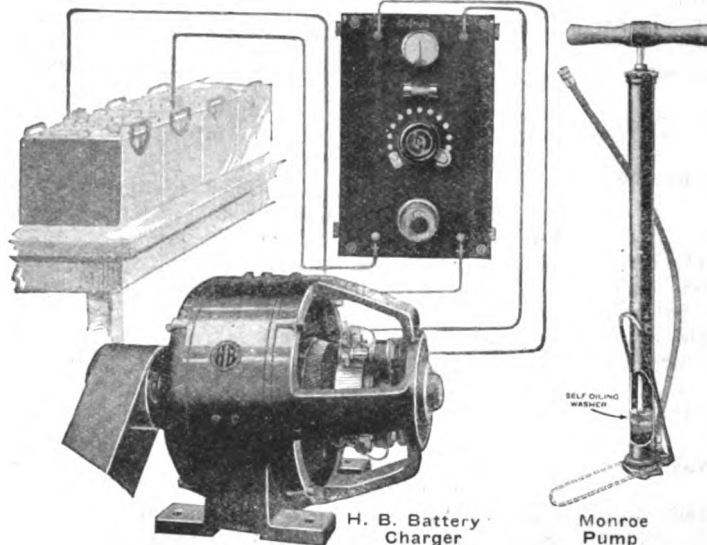
A man must attend strictly to business in buying stock. If an article is not a ready seller I get a price on, say, fifty, to be delivered in lots of ten. I get a price but am never over-stocked. If the first agent will not give me the rate someone else will. In staple articles I order a full line and see that my supply is kept up to standard.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winton, Kansas City.



Workrite Booster



Workrite Battery Hydrometer

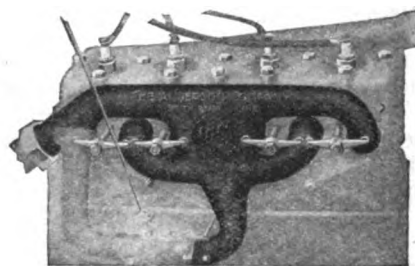


H. B. Battery Charger

Monroe Pump



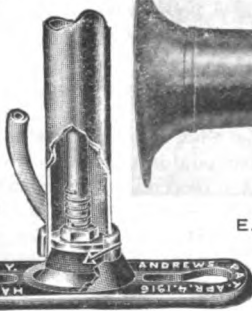
All-in-One Valve Tool



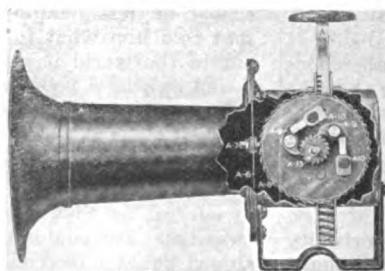
Anco Manifold



Hudson Manifold Air Adjuster



Hart-Bell Pump



E. A. Hand Horn

**WORKRITE BATTERY HYDROMETER**

This is a battery hydrometer enclosed in a glass tube with a rubber hose on one end to draw up the liquid and a rubber bulb on the other. Rubber collars at each end of the hydrometer protect it from striking and breaking. The slotted rubber washer inside the tube acts as a cushion for the float and prevents the float from stopping the outlet hole. The square collar prevents rolling if laid on an uneven surface. Price \$1.

The Workrite hydrometer outfit consists of the Workrite hydrometer fitted in a glass jar of 1 qt. capacity for keeping distilled water. Price \$1.50.—Workrite Mfg. Co., Cleveland.

**MONROE TIRE PUMP**

This is a single-cylinder self-oiling tire pump with a folding base. The cylinder is  $1\frac{1}{4}$  in. in diameter and  $18\frac{3}{4}$  in. long, and has a hard wood handle with steel ferrule. The self-oiling device consists of a  $\frac{3}{8}$ -in. felt washer which is treated with oil to retain moisture and lubricant. The cylinder is steel and the pump is finished in japan. Weight  $2\frac{1}{2}$  lbs. Packed in individual cartons, 50 cartons to a shipping case. Price \$2.50.—Fulton Co., 1910 St. Paul Avenue, Milwaukee.

**ANCO EVEN HEAT MANIFOLD FOR FORDS**

This is a combined intake and exhaust manifold for Fords. The heat of the exhaust is used to evenly heat the intake manifold so that the incoming gas is warmed before entering the cylinders. It is a one piece casting of high grade iron, has no moving parts, and can be installed in about a half hour without the use of any tools except a wrench. The manifold comes packed in a carton, together with complete new set of standard Ford gaskets and instructions for installing and using. Price \$9.75.—Anderson Co., South Bend, Ind.

**E. A. HAND HORN, MODEL "A"**

This is a hand-operated horn equipped with a bracket for mounting on top of side door or seat. For mounting on the extreme left or right side the position of the bracket can be changed. The horn is operated by downward pressure of the handle, which rotates a serrated wheel against an anvil on the diaphragm. The sound can be adjusted by changing the relative position of these two parts.—E. A. Laboratories, Inc., 54-82 Broadway, Brooklyn, N. Y.



*You Must*

# Run Your Garage the New Way

**It Must Be the Home of a Modern Business Man and An Up-to-Date Merchandiser, If You Are Going To**

**MAKE MONEY IN 1919**

**MAKE MORE IN 1920**

**T**HERE is more money to be made in the garage business than anybody has ever yet made.

There is a great, great deal more to be made than is made by the average garageman.

The NEW garageman will make money and won't work as hard as he has heretofore. He will be a REAL BUSINESS MAN and will do the following things:

## *The New Front*

1—He will go across the street after he has read this page and take a look at his place of business. Then, if the place needs painting or washing, he will give it a new suit of spring clothes.

If there is dirty space between the sidewalk and the garage front, he will have it spaded up and will plant grass seed. He will have grass plots and flowers about his garage front. He will train vines up the front if feasible. He will make his place look inviting and restful. All of which will not mean any more work because the sun and rain will do it all, aside from the spading.

## *The New Sign*

2—He will study his sign. He will have it dressed up and repainted. He will have it illuminated at night, so it can be seen from a distance. He will have the word "Garage" conspicuous—and then he will live up to the word by having real service, a stock of automotive equipment and other things the regular and transient customer needs.

## *The New Display*

3—He will have display windows and an automotive equipment stock.

He will do the things enumerated on pages 29, 30 and 67.

## *The New Rest Room*

4—He will have a rest room for women. He will have dressing room facilities for men. When a tourist stops at his place the tourist won't have to wait until he gets to the hotel before washing up. And when a regular customer comes in from a drive he will look forward to the soap and towels and hot water he will find at the garage. People will like to come to this place. This rest room will be shined and polished every day—or oftener if necessary. It will be a comfort and a joy—and a good-will maker and business builder for the proprietor.

## *The New Office*

5—He will have an office—a real office. This will be fitted up as an office should be. When the garageman enters the office of a doctor or a lawyer he will say to himself: "My office is as good as this." There will be neatness and order, system and efficiency, business and PROFITS.

## *The New Atmosphere*

6—His garage will be clean from end to end. The floor will be cleaned every day—or more often if necessary. The workers will be clean. They will have their overalls, all of a uniform color, washed once or twice a week. There will be order in the repairshop. Tools will be kept in their places. He will observe the motto of a successful man that "A clean floor makes a clean shop."

## *The New System*

7—He will have a system of costs and accounting that will tell him where he is making or losing money, so that he can check his losses and increase his profits where possible.

He will have a stock system that prevents his money being tied up in obsolete stock and that prevents his being without merchandise for which his customers are anxious to exchange their money. Study pages 92 to 95 and see if any of the Motor World forms or system will help you.

## *The New Advertising*

8—He will post road-signs about the country, directing tourists to his garage, and after they get there they will be more enthused over the garage than they were when they read the signs. He will mail pieces of literature about his garage and about the merchandise he sells to customers in every piece of outgoing mail. He will keep a record of tourists in a register and each spring will begin to circularize them, inviting them to stop at his garage if they come that way again; also telling them of the fine roads for touring through his section.

## *The New Proprietor*

9—The proprietor will become a proprietor and NOT a mechanic. He will devote his time to the managing end of his business. Instead of being worth 60 cents or a dollar an hour in the shop he will become worth two or three dollars an hour in the office. He will make it his business to keep in close personal touch with his customers and will build valuable good-will and profitable business. He will see to it that he and his business are liked by the public and that this public comes back again and again to leave its money with him.

## *The New Profit*

10—He will find out how much it costs to do everything and how much he must charge to make a profit. He will refuse to sell goods on which he cannot make a profit. He will NEVER CUT PRICES. He will NEVER GIVE AWAY GOODS. He will

**MAKE MONEY IN 1919**

**MAKE MORE IN 1920**



### BURGESS SHOCK ABSORBERS FOR FORDS

This is a coil-spring shock absorber for Fords. An arm on which the spring is mounted is arranged to control the recoil of the leaf spring by shifting the load at the instant of rebound from the foot to the center of the spring. The springs have rubber caps and the arrangement of the shackles connecting the spring arms to the body is such that sideway is controlled and steering not endangered. Can be installed without cutting or drilling and the only tool necessary is a wrench, which is furnished with the set. Price \$16.—Walter F. Burgess Mfg. Co., St. Joseph, Mich.



Burgess Shock Absorber

### TRAX-YUN SKID CHAINS

These are skid chains for trucks in which each unit encircles the tire and rim between the spokes and is held under tension by a spiral wire spring, there being six or more of these springs fastened to a wire ring which encircles the hub. A set consists of 14 or 16 chains complete with necessary springs. Made in sizes to fit tires from 32 x 3 single to 42 x 7 dual. Prices from \$10.25 to \$40.75 per set.—Topping Bros., 1222 Chambers Street, New York City.



Trax-yun Skid Chains

### EXIDE BATTERY FOR TRACTORS

This is a special battery for tractor service. The plates are heavy and the separators a combination of treated wood and perforated hard rubber. The plate groups are supported on soft rubber bridges and the jars and covers are of "Giant" compound. Extra heavy sealing nuts are used on the pillars and the jars are set in compound in the carrying cases. The connectors are flexible copper and the terminals are standard clamp-lug type.—Electric Storage Battery Co., Philadelphia.



Exide Battery for Tractors

### GEMCO WILFIT BUMPER

This is a bumper which clamps to the frame or horns by means of U-bolts and nuts. It is adjustable as to height and may be used either for the front or rear of the car.—Gemco Mfg. Co., Milwaukee.



Gemco Wilfit Bumper

### ASKE DUAL LIGHTING SYSTEM INSTRUMENT BOARD

This is an instrument board for Fords and is equipped with flush type clock, dimmer and push and pull switches. The outfit is complete with wires cut to the proper length for installation and a rear lamp adapter for converting the oil lamp into electric. It is intended to be used with the Aske voltage regulator and the headlights can be dimmed, rear lights electrically lighted and either the lights or the engine can be run from dry cells. The battery



Aske Instrument Board

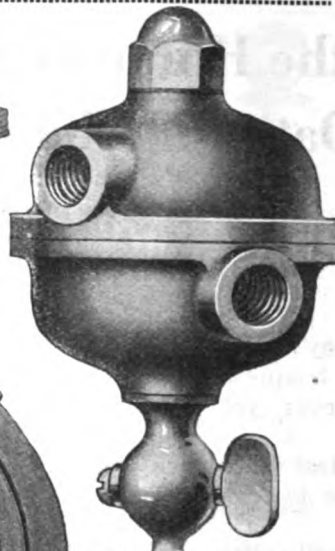
### Sells Special Oils

In the line of automotive equipment, Earl C. Anthony, Inc., Los Angeles, has learned that a good business can be built up in oils and greases under the firm name. "What kind of oil is best for a Packard car?" is answered by the service department, and the inquirer is told that the company puts up this oil especially for Packard users. The usual result is a can of oil is put into the car by the owner's order before it leaves the garage.

and magneto switch is so designed that the 'battery and magneto cannot be used at the same time for lighting purposes. Price \$15 complete with automatic regulator, \$11 without regulator, or \$7.50 without regulator and clock. The instrument board without any equipment is \$1.25.—Aske Automatic Voltage Regulator Co., Duluth, Minn.

### KNOX GASOLINE STRAINER

This is a gasoline strainer for cars or trucks. The straining is done by a screen which can be removed for cleaning by unscrewing the top nut and lifting off the top. It is not necessary to disconnect the pipe line. Price \$1.25.—Camden Anchor-Rockland Machine Co., Camden, Me.



Knox Gasoline Strainer

### McKEE AUTOMATIC COMPRESSION GREASE CUP

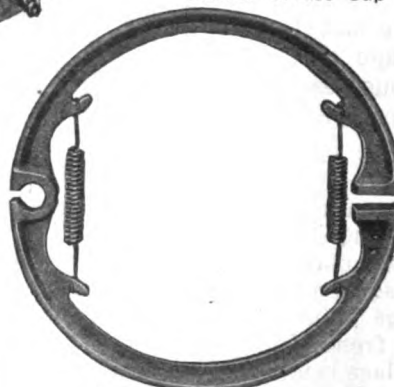
This is an automatic spring-compression grease cup, the coil spring on the inside tending to press the plunger down as much as the handle will allow. As the handle is screwed upward on the shank, the spring gradually presses the grease out through the hole at the bottom. A small spring in the handle prevents the handle from turning under vibration. A cupped leather plunger prevents grease from backing up and interfering with the spring action. The feed is regulated by a screw in the shank and permits the use of grease of any density. Made in six sizes, with threads from 1/4 to 1/2 in. pipe and with a capacity from 1/3 to 10 oz. of grease.—Lindholm Metal Stamping Co., Camden, N. J.



McKee Grease Cup

### EVER-LAST RETREAD

This is a new tread to be applied to a casing on which the original tread has been worn out. The surface of the tire is cleaned and treated with vulcanizing cement and the retread applied. Adaptable for either clincher or straight size tires. Prices range from \$11.55 for 30 x 3, to \$36.65 for 37 x 5.—Ever-Last Tread Co., Inc., 128 East New York Street, Indianapolis.



E. &amp; S. Brake Shoe

### BULLDOG TIRE PATCH

This is a tire patch which consists of four plies—fabric, raw rubber, semi-cured rubber and raw rubber. The patch is put up in cans of two sizes, 50 cents and \$1. The lid of the can is coated with an abrasive, so that it can be used as a buffer.—Iowa Tire Patch Co., Des Moines, Iowa.



Ever-Last Retread

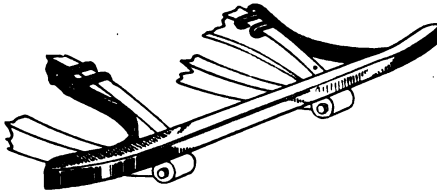
### E. & S. BRAKE SHOE FOR FORDS

This is a brake shoe for Fords and is cast in one piece and fitted with releasing springs. Packed in pairs, in individual cartons. Price 30 cents per pair.—Ellis-Smith Mfg. Co., Inc., Elmira, N. Y.



### GEMCO SPRING CHANNEL BUMPER

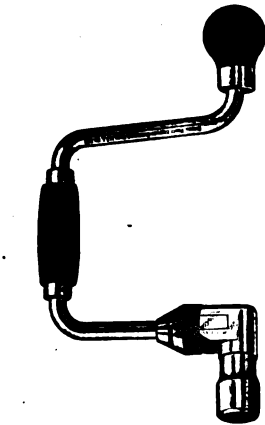
This is a spring channel bumper with a universal hook-on bracket allowing it to be attached to almost all standard cars at the front and a considerable number at the rear. The bumper may be turned upside down and one hook may fasten to the upper edge and the other to the lower edge when the car has no mud guard or splash pan. Made with channel bar in either nickel or black, prices \$10.54 for nickel, \$9.48 in black. Gemco Mfg. Co., Milwaukee.



Gemco Bumper

### GOODELL-PRATT RATCHET RIM WRENCH

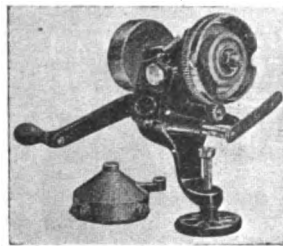
This is a rim wrench of brace form with ratchet mechanism. The  $\frac{3}{4}$  in. hexagon socket also has a square taper hole for holding reamers, screwdriver bits and drills with bit brace shanks. The ratchet is operated by a ring sleeve, the sweep is 10 in., and all parts are polished and nickel-plated. Provided with  $\frac{1}{2}$ ,  $\frac{3}{4}$  or  $\frac{1}{2}$  in. hexagon sockets as desired. Price \$3 each. Packed two in a box, weight  $4\frac{1}{2}$  lb.—Goodell-Pratt Co., Greenfield, Mass.



Goodell-Pratt Rim Wrench

### ROSS TIMER GRINDER

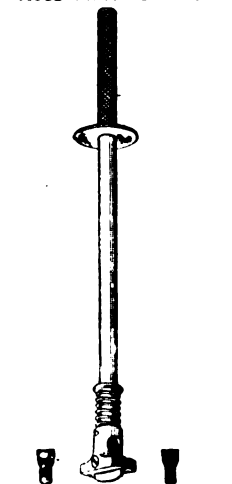
This is a bench grinder for grinding the contacts and insulations of Ford timers to a true round surface. The timer case is clamped in a wheel and held in place by a spring lever which is instantly slipped in or out of place. The timer revolves slowly in one direction by means of a gear and pinion on the outside of the clamp and the abrasive wheel rotates rapidly in the opposite direction. The time required to grind a timer is about three minutes. Price \$25.—A. P. McCulloch Machine Co., 216 High Street, Boston.



Ross Timer Grinder

### HUDSON UNIVERSAL JOINTED VALVE GRINDER

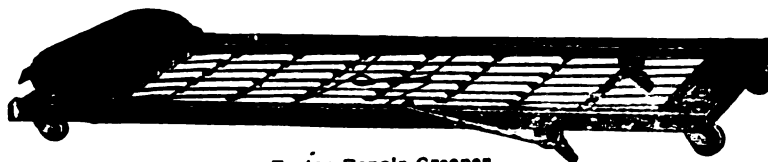
This is a valve grinder fitted with a universal joint to allow a reasonable amount of angularity in any direction relative to the shank. The universal joint is formed by pinning the tool head to the shank with a pin which is much smaller than the hole. A coil spring between the head and shoulder of the shank takes up all looseness and holds the head normally square with the shank. The head is a die casting, split and adjustable to any valve. The pin, screw driver blade and spring are of tempered steel and the shank of mild steel knurled on the handle and provided with a flange to guide the bottom of the hand. Price \$1.50.—Hudson Motor Specialties Co., 1932-34 Arch Street, Philadelphia.



Hudson Valve Grinder

### GOODRICH REPAIR ARM FOR FORDS

This is a repair arm for fastening the rear engine supports of the Ford to the frame, if the original supports have not been torn away, or it can be used to

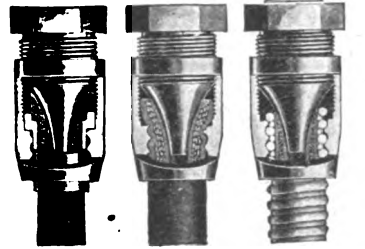


Foster Repair Creeper

strengthen the existing support. The repair arm can be put in place without taking the engine out of the car or without welding, brazing or riveting. Price \$1.25.—Goodrich-Lenhart Mfg. Co., Hamburg, Pa.

### ROMORT UNIVERSAL HOSE COUPLING

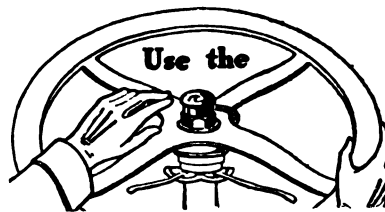
This is a hose coupling which can be used on metal-covered hose or rubber hose. One type will take care of any diameter hose. A small brass bushing which is furnished with each valve is used on hose of very small diameter. On large diameters the bushing is not necessary. The hose is expanded at the end and the threaded nipple is so designed that the harder the pull the tighter the grip. Price \$1.25.—Zinke Co., 1323-1325 Michigan Boulevard, Chicago.



Romort Hose Coupling

### HANDY PUSH BUTTON FOR FORDS

This is a horn button to be placed on top of the steering wheel spider of the Ford car. The base fits over the Ford steering wheel post and the wiring goes down the outside of the steering column and connects to the regular Ford wiring. Price 50 cents. Handy Products Co., 302 Erie Building, Cleveland Ohio.



Handy Push Button

### FULL-RAY HEADLIGHT DEFLECTOR

This is a headlight deflector to be placed in the upper part of the headlight. It can be used in any headlight regardless of the type of lamps used. Price \$2 for Fords, or 8 in. size; \$2.50 for all other sizes.—Bradsto Appliances, Inc., 65 Main Street, Buffalo, N. Y.



Full-Ray Deflector

### CLULEY SUNSET SWITCH

This is a switch which automatically turns on the headlights at sundown. It is in the form of a dial and is mounted on the dashboard of the car. Made in two styles. Price \$7.50 and \$15.—Cluley Auto Supplies Co., 471 East Ohio Street, Chicago.



Cluley Sunset Switch

### DIXON'S NO. 677 GREASE

This is a graphite grease of the right consistency for transmission and differential gears. Put up in 1, 5, 10 and 25 lb. cans at prices from 30 cents to 40 cents per lb., depending upon quantity, and in barrels containing 50, 100, 200 and 400 lbs. at prices from 19 cents to 27 cents per lb., depending upon quantity.—Joseph Dixon Crucible Co., Jersey City, N. J.

### FOSTER REPAIR CREEPER

This is a repair creeper with metal frame, link spring, ball bearing castors and a positive locking device to anchor the creeper in any position. A comfortable headrest is attached to one end of the attached to one end of the at the other. Price \$4.—Foster Bros. Mfg. Co., Utica, N. Y.



**HAGER AUTO LOCK**

This is an automobile lock which prevents the engine from running by means of a shutter which completely closes up the opening to the intake manifold. It locks from the dash without the operator leaving the seat. To install, it is only necessary to remove the carbureter, insert the flat part of the device and connect up the key mechanism to the dash. Price \$6.50 per pair for Ford cars; \$7.50 for other makes. — Bradsto Appliances, Inc., 65 Main Street, Buffalo, N. Y.

**TRIPLEXED GASOLINE HOSE**

This is a flexible metal gasoline hose. The steel strip is made of slow rolled metal heavily galvanized. Hand picked asbestos string is rolled into the packing box in the joint and a gasoline compound is molded under pressure over the metallic part of the hose and over this is woven a fabric cover. Made in all sizes from 1/2 in. inside diameter up to and including 3 in. — Metal Hose & Tubing Co., Inc., Raymond & Tillary Streets, Brooklyn, N. Y.

**GUSHER WATER CIRCULATOR FOR FORDS**

This is a propeller type pump contained in a casting which exactly replaces the cylinder outlet-water connection on the Ford. The shaft is extended through a stuffing box and a pulley on the end of this is driven by a small belt from the fan below. Can be installed without any machine work or tools other than a wrench. Type "A" is for cars prior to 1917, and type "B" for 1917, 1918 and 1919 models. Price \$5. — Cluley Auto Supplies Co., 471 East Ohio Street, Chicago.

**EXCELSIOR RIM TOOL**

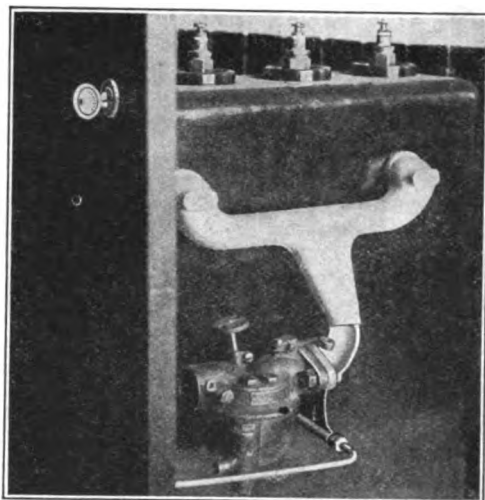
This is a tool for removing and replacing demountable rims. The cross rod is adjustable for length and a lever pulls or pushes the loose end of the rim out of place or in place as the case may be. Locking is accomplished by changing the position of the device. Price \$5. — Gilles Rim Tool Co., 603 Elliott Square, Buffalo, N. Y.

**NECESSITY CHAIN TOOL**

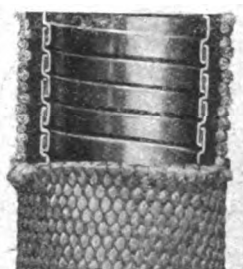
This is a chain tool which brings a powerful leverage to bear on the links, gripping them firmly and forcing the link end open or pressing it closed to the exact line of the other links. The handles are wide, long and curved to fit the hand. Price \$1.60. — Stevens & Co., 375 Broadway, New York City.

**KANT-LEEK AXLE WASHERS FOR FORDS**

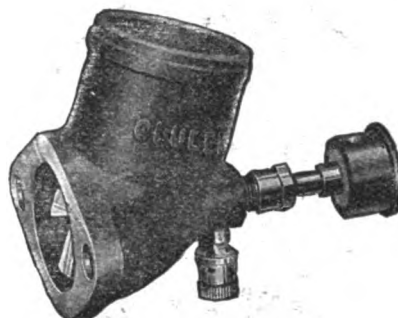
These are washers for the rear axle of Fords to prevent leakage of oil and grease. The set consists of four annealed steel cups and eight washers, together with a retaining ring. The washers are installed by re-



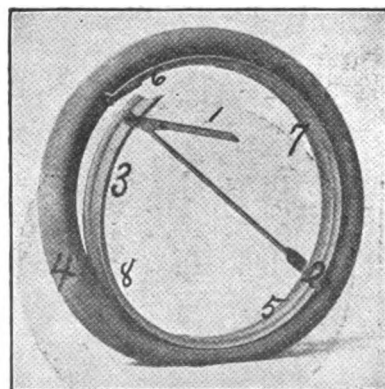
Hager Auto Lock



Triplexed Hose



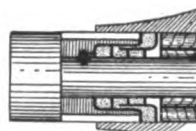
Gusher Water Circulator



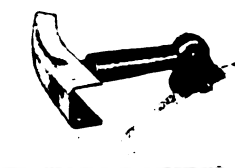
Excelsior Rim Tool



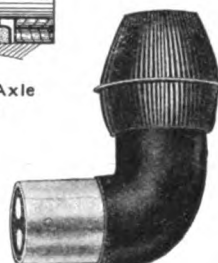
Necessity Chain Tool



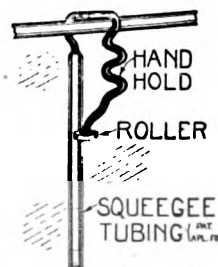
Kant-Leek Axle Washer



Trufit Bumper



Changeable Socket Plug



See-Safe Windshield Wiper



Crex Rim Tool



Stevens Carbureter Wrench

moving the hub cap and nut, removing the wheel and roller bearing and inserting the washers, reassembling with the washers in place. Price 75 cents per set. — Apex Mfg. Co., Inc., St. Louis, Mo.

**STEVENS CARBURETER WRENCH**

This is a set comprising a wrench and grinding pin for carbureters of the Schebler type. It has a socket wrench at either end, these being of different sizes. The small chuck holds the valve while grinding it to a better seat. The entire tool is machined from steel rod, case hardened and nicked. Packed in an envelope. Price 40 cents. — Stevens & Co., 375 Broadway, New York City.

**TRUFIT BUMPER**

This is a front bumper so designed that the brackets fasten to the lower flanges of the frame members. Will fit 1919 Buick and Essex cars without interfering with the installation of snubbers. Can also be installed on other cars which have forward extending frame members. — Milwaukee Auto Engine & Supply Co., Milwaukee, Wis.

**CHANGEABLE SOCKET PLUG FOR FORDS**

This is an elbow plug for use in the headlights of the Ford car to make the headlights burn uniformly whether the engine is running fast or slow. One of the plugs is put in place in the right-hand lamp nearest the generator and this automatically cuts down the voltage as it increases in the generator. Either lamp will burn independently of the other. Price 60 cents. — Frank W. Morse, 289 Congress Street, Boston.

**SEE-SAFE WINDSHIELD WIPER**

This is a windshield wiper which wipes rain, snow or mist from the outside of the windshield glass, the operation being conducted from the inside. The hand pull forms the spring and this is fitted with a roller which presses against the inside of the glass, thus forcing the squeegee against the outside of the glass. Price 50 cents. — Stadeker Metal Specialty Co., 358 West Madison Street, Chicago.

**CREX RIM TOOL**

This is a rim tool for removing, replacing and locking demountable rims. To either expand or depress the rim the handle is worked back and forth very much like raising or lowering a car with a jack. The tool will hold the rim in collapsed position while the tire is being changed and the tool is adjustable to any size rim. Made in malleable iron. — Price \$6. — Crexler Rim Compressor Co., 1418 Walnut Street, Philadelphia.



# Have You Thought of Airplanes?

**"Come, Look and Wonder,"**  
**Is Automotive Show Slogan**  
Visitors Will Be Stricken With Amazement at Magnitude of Exhibition—Curtiss Biplane Will Be Shown.

**MILWAUKEE FIRST TO HAVE AIRPLANE AGENCY IN WEST**

**WISCONSIN-NEWS LEADS ALL**  
The first advertisement for the new airplane agency in the West, the Wisconsin-News, is the first to appear in the public eye. It is the first to appear in the public eye. It is the first to appear in the public eye.

**FOR GOD'S SAKE SEND US HOME, YANK PLEA, CONGRESSMAN SAYS**

THE WISCONSIN-NEWS

**IT IS HERE!**



**Curtiss Aeroplane**

Displayed at  
**AUTOMOTIVE SHOW**

Orders Now Being Taken

**GEO. W. BROWNE, Inc.**  
Phone Broadway 3023. 510-18 Broadway

**WE'LL ALL FLY SOON**  
Two Milwaukee Auto Firms Are Going to Sell Airplanes Just Like Cars.

**At The Auto Show He**

**AUTOMOTIVE JASS BAND**

## George W. Browne, of Milwaukee, Is Selling Airplanes

**B**EFORE we know it the day of the commercial and passenger airplane may be with us, and when that day comes who is going to be selling these motorized birds of the air? Will you be one of the dealers in planes?

George W. Browne of Milwaukee has already started in the business, and other dealers elsewhere are looking with interested eyes on the new business. A few others also have secured agencies, but this story is about Browne and how he does it.

The thing in which a dealer is interested is: Can I sell any and make any money at it? And, why should I take an agency now?

In answer to the first question: You can sell a few and need not LOSE any money at it. There are in every community a few individuals of sporting proclivities who drive red roadsters and like high-powered cars. They have been thinking about planes and are likely prospects. These men, also, are not particular as to what a thing costs so long as it is what they want. In this field sales can be made NOW and at a profit.

Answering the second question: Even if it is only a break-even so far as profit is concerned, there is big advertising value in being known as a dealer in airplanes. A little advertising now and then, stating that you are ready to de-

liver planes and inviting the public, KIDS INCLUDED, to come to your salesroom and inspect the plane, will bring a tremendous return so far as publicity is concerned. Also, out of the curious crowd that will come you should, by judicious management, be able to secure the names of many car prospects. Had you visited the New York Aeronautical Exposition recently and seen the boys diving into the internals of planes you would have had a rather optimistic opinion as to America's interest in aviation—especially the younger generation.

There are 30,000 flyers coming out of the army. Many of them will be anxious to continue flying. Some will buy, others may be drivers.

Browne has the agency for the Curtiss JN4D in Wisconsin. It sells for \$8,000 and has 90 hp. Already he has had the application for the agency from a man in Manitowoc, Wis., a town of 8000 or so.

Browne is getting, at a reasonable salary, a flying instructor from Camp Borden, Canada. This man wants to continue flying. He will be both salesman and instructor. He probably will be carrying Browne out to his stock farm, some 30 miles from Milwaukee, soon, just the same as Kettering and other engineers have been flying around the Middle West for some time, making distances at speeds twice that possible by rail, and more.

Browne plans to use the State Fair Park for starting and landing. He also states that the fact that Lake Michigan is handy makes the sale of hydroplanes probable.

One Wisconsin father has a boy who was a flyer. The father has four or five cars. He is proud of the boy. If the boy wants a plane will the father buy one? Or won't he? Make your own answer.

The Chamber of Commerce favors Browne's idea of a landing park. The newspapers are giving him publicity. He is running advertising. Look at the cut on this page and see his advertising and the headings of several newspaper stories. One paper even gave him a panel on the front page as the first airplane dealer.

The hydroplane idea seems to be making a hit. The hydroplane sells for \$11,000 and carries two passengers. It has a cabin and is quite comfortable.

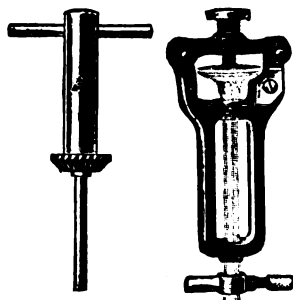
Delivery can be made from the Buffalo factory by air in 10 hours. This means that 24 hours after an order is placed, barring unforeseen conditions, the prospect can have his plane.

Browne isn't figuring on selling as many planes as he sells Overlands, but he is figuring on picking up a little spare change in the business and getting a lot of advertising and publicity.



### STEVENS VALVE RESEATER AND REFACTOR FOR FORDS

This is a set of two tools, the reseater being a special reamer to cut a new surface on the valve seat in the engine. A stem goes down into the valve guide to keep the cutting edges of the tool at the proper angle and a handle enables it to be easily turned. The refacer is a clamp into which the valve fits, tension against the cutting edge being maintained by means of a spring retained screw on top of the holding spring which exerts a uniform tension on the valve stem as it is being revolved against the cutting edge. This cutter has an edge on each side. To turn the stem against the cutting edge a knurled handle is used which is slipped over the bottom of the stem and is held by a set screw. Price \$2 for reseater, \$1 for refacer.—Stevens & Co., 375 Broadway, New York City.



Stevens Valve Reseater and Refacer



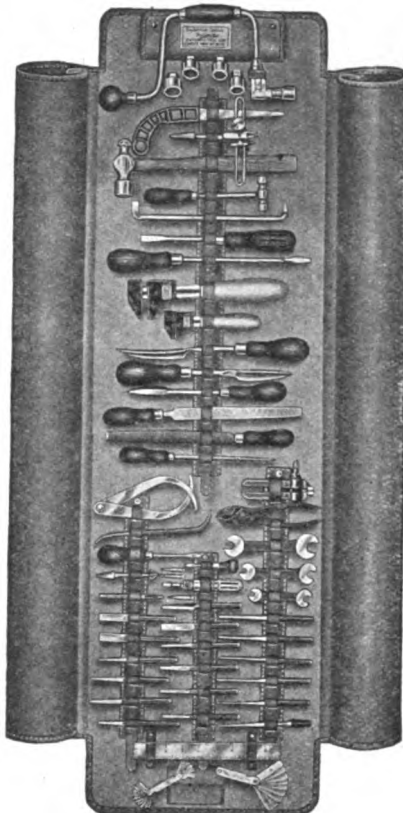
Hudson Sliding-Contact Brush

### HUDSON SLIDING - CONTACT BRUSH FOR FORD TIMERS

This is a sliding - contact timer brush to replace the roller contact in the Ford timer. It consists of a piece of tempered spring steel which is held in a tempered steel holder with a contact riveted on the end. This contact slides around instead of rolling and is claimed to wear the contacts and insulations down equally and evenly without jumping. Price 60 cents. Hudson Motor Specialties Co., 1932-34 Arch Street, Philadelphia.

### GOODELL-PRATT COMPLETE SET

This is a complete motor kit in a tool roll and is designed for small garages or for long tours. Consists of 53 tools held in place by leather straps and a leather carrying handle. Each set packed in a box, weight 20 lbs. Price \$41.—Goodell-Pratt Co., Greenfield, Mass.



Goodell-Pratt Tool Set

### WHITE STAR LUBRICATING OIL

This is a lubricating oil with low cold test and a viscosity suitable for the Ford engine. Put up in 1 and 5 gal. cans and in containers of larger quantities.—White Star Refining Co., Detroit.



Wayne Sidewalk Pump

### WAYNE SIDEWALK PUMP FOR LUBRICATING OIL

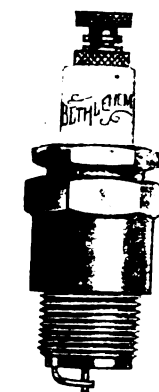
This is a sidewalk outfit for storing and measuring lubricating oil. The pump is of the long-distance type and storage tank is buried underground at any convenient location within a reasonable distance of the pump. The cabinet and housing are made of cast-iron and steel and pedestal and telescope housing are made of steel. The dome is supported by galvanized pipes and the outfit is equipped with a 1/4 in. non-drip type D nozzle.—Wayne Oil Tank & Pump Co., Fort Wayne, Ind.

### HOYT-CADMIUM TEST METER

This is a voltmeter for use with cadmium tests of storage batteries. The scale runs from .2-0-2.8 and readings can be made to .05 volt. The instrument is mounted on a mahogany base and the whole working system is a single unit. Price \$12. Hoyt Electrical Instrument Wks., Penacook, N. H.



Hoyt Cadmium Test Meter



Bethlehem Plug

### STADCO NO. 20 QUADRUPLE WRENCH

This is a spark plug wrench with four sizes of openings in two holes. This is accomplished by having the smaller hole above the larger, so that when using the larger opening the shoulder will prevent the wrench from dropping down. Price 30 cents.—Stadeker Metal Specialty Co., 358 West Madison Street, Chicago.



Stadco Quadruple Wrench

### CAMPBELL DETACHABLE UPHOLSTERY

These are sets of upholstery covers which are fastened in place with patent fasteners. Made in a large selection of fabric. Bound in broad heavy binding, reinforced at the seams.—Perkins-Campbell Co., Cincinnati, Ohio.

### RED-MAN CLEANER AND FINISH

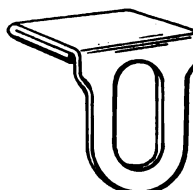
This is a one-application product to clean and finish bodies, fenders, etc.—C. F. Roberts Co., 278-280 Brush Street, Detroit.

### STEVENS NO. 152 REAMER SET FOR FORD BUSHING

This is a small set of reamers for Ford bushing comprising one straight flute duplex reamer for steering gear bushing No. 2713-2714, also a reamer for pistons No. 3022 1/2 and one for transmission triple-gear bushing No. 3314 1/2.—Stevens & Co., 375 Broadway, New York City.



Stevens No. 152 Reamer Set



Hold-Tight Wedge Plate

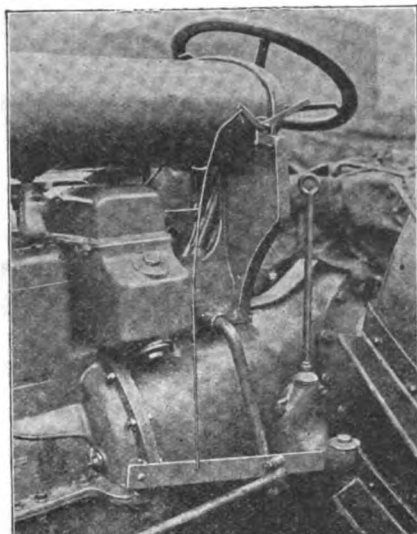
### HOLD-TIGHT WEDGE PLATES

There are wedges to be inserted under the regular wedges on demountable rims to take up the sag. Price 6 cents each, \$1.20 per box of twenty. Twelve boxes are packed in a two-color counter display carton.—Alliance Supply Mfg. Co., 153 State Street, Alliance, Ohio.



### AUTOMATIC STEERING DEVICE FOR FORDSON TRACTORS

This is an automatic steering device to be attached to a Fordson tractor to hold the front wheels in the furrow while plowing. It is easily attached by removing three nuts and slipping the attachment on the bolts and replacing the nuts. The front wheels can be locked in the furrow and the tractor will follow the furrow across the field. When desired, the locking lever can be tripped and the tractor steered as usual. Price \$5.—Metal Auto Parts Co., Inc., 626-628 East Locust Street, Des Moines, Iowa.



Automatic Steering Device for Fordson

### DUNN'S COUNTERBALANCES FOR FORDS

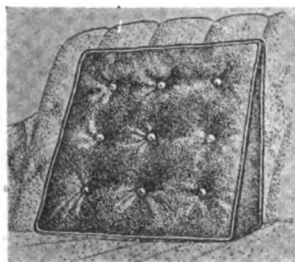
This is a set of counterbalances for Ford crank shafts. Each counterbalance is equal to the weight of the opposite crank and the balances are clamped to the shaft by means of bolts and nuts which are cotter-pinned in place to prevent their getting loose. There is ample room for the connecting rod assembly. Price \$12 per set.—Dunn's Counterbalance Co., 115 North Fifteenth Street, Clarinda, Iowa.



Dunn's Counterbalances

### E. Z. BACK CUSHION

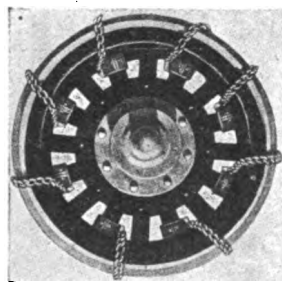
This is a tapered cushion to go between the driver's back and the seat back. Made of artificial leather, filled with soft padding, corded and welted edges all around. Size 15 by 18 in. and tapers from 4 1/4 in. to 1/4 in. Price \$3.50.—Economy Seat Co., 3132-3136 South Canal Street, Chicago.



E. Z. Back Cushion

### ARROW-GRIP CHAINS

These are skid chains for trucks. A set consists of a number of cross chains going around the tire and the felloe and attaching to a clamp which is fastened around every other spoke. The chains are quickly attached or detached by inserting the end links in the catches with a screw driver or other handy tool, but the clamps on the spokes remain permanently in position. Prices of single grips without chains range from \$1.50 to \$1.80 and chain is supplied in 25 and 50 ft. lengths at from \$17.50 to \$25 per 50 ft., depending upon the size of the chain.—Arrow-Grip Mfg. Co., Inc., Glens Falls, N. Y.



Arrow-Grip Chains

### RAIN-SNO WINDSHIELD CLOTH

This is a windshield cloth which is chemically treated so that when wiped over the windshield the rain will not adhere to it in drops in the ordinary way, but will run off, leaving the glass clear. It contains no grease or oil or anything to soil the hands or smear the glass. Price 50 cents.—Suffolk Mfg. Inc., Inc., 3168 Washington Street, Boston.

### K-W SPARKITE

This is a new alloy metal developed especially for contact points. When made into contact points these are larger than



Automatic Time Stamp



Cellbeam Spot Light

### AUTOMATIC TIME STAMP

This is a time stamp for stamping the year, month, day, hour and minute. Made in a large variety of sizes and styles and with any desired lettering or numerals in the stamp. Price \$40 upward.—Automatic Time Stamp Co., 160 Congress Street, Boston.

### CELLBEAM SPOT LIGHT

This is a concealed spot light, hand lamp or windshield attachment and can also be used as a trouble lamp. The central beam is a concentration of light for long distances. Finished in nickel with silvered mirror. A high grade switch is incorporated in the handle with external focusing adjustment immediately above it. Five ft. of flexible cord is standard equipment.—Cellbeam Corp., 501 Fifth Ave., New York City.

### CALCULAGRAPH

This is a time stamp which automatically computes the elapsed time of any operation. Can be furnished either with or without the date printing attachment.—Calculagraph Co., 9-13 Maiden Lane, New York City.

### SILVER GIANT GREASE GUN

This is a grease gun with a threaded shank for forcing grease through the nozzle by turning the handle, or it can be quickly converted into a plunger gun by unscrewing the wing nut. The oil nozzle screws into the handle when not in use. Price \$3.—Mayo-Skinner Mfg. Co., 2115 Elston Avenue, Chicago.



Calculagraph

Silver Giant Grease Gun

### MASTER SPARK PLUG

This is a spark plug with an insulator of calorite. The insulator can be replaced by removing the packing nut from the shell. Made in all threads and in different lengths for different make cars. Price \$1 for regular models, \$1.25 for extra length models.—Hartford Machine Screw Co., Hartford, Conn.

### HARTFORD JACK

This is a gear-operated jack with short stroke and capacity of over 4000 lbs. The short stroke gives clearance between handle and road, and the broad base prevents upsetting.—Edward B. Hartford, Inc., 143-149 Morgan St., Jersey City, N. J.

### RAYBESTOS DISK CLUTCH FACING

This is a wire-inserted woven fabric to be used as a friction facing for disk clutches. Made in a large variety of diameters both inside and outside and in several thicknesses. Packed in boxes containing 20 rings of one size only.—Raybestos Co., Bridgeport, Conn.

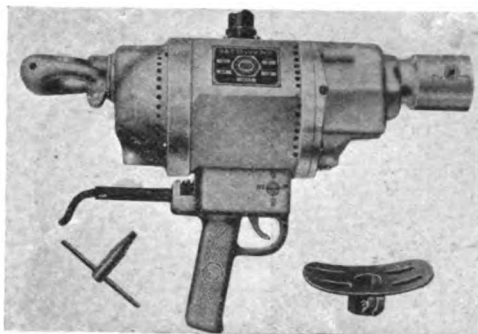
### ECONOMY TIRE

This is a black-tread tire made with either ribbed or non-skid tread. Sizes are from 30 x 3 to 37 x 5, prices ranging from \$17.45 for the smallest ribbed tread tire to \$69.35 for the largest non-skid tire. Gray and red tubes for these sizes of tires range from \$3.45 to \$10 each.—Economy Rubber Co., Akron, Ohio.



### B. & D. 1/2-IN. PORTABLE ELECTRIC DRILL

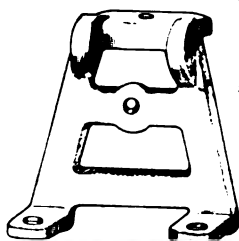
This is a portable electric drill with a capacity up to 1/2 in. The electric motor is 1/2 h.p. and the full-load current consumption is about 700 watts. The housing is of aluminum alloy and the total weight is 21 1/2 lb. The drill has a pistol grip and trigger switch, making it possible to handle it with one hand. The motor is universal and will use direct current or 25, 40 or 60 cycle alternating current. The motor is cooled by air from a centrifugal fan mounted on the armature shaft. Price \$92 for 110 volts, \$95 for 220 or 32-volt current.—Black & Decker Mfg. Co., Baltimore.



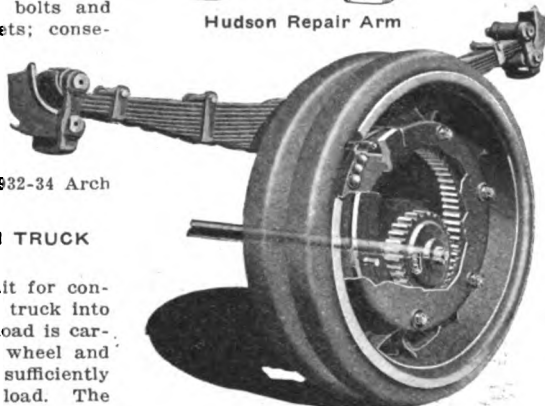
B &amp; D 1/2-In. Drill

### HUDSON CRANK-CASE REPAIR ARM FOR FORDS

This is a crank case repair arm for the two rear arms of the Ford engine. The arm is attached to both the engine and frame by means of bolts and nuts instead of rivets; consequently it is not necessary to take the engine apart or to take it out of the car. Price \$1.50.—Hudson Motor Specialties Co., 1932-34 Arch Street, Philadelphia.



Hudson Repair Arm



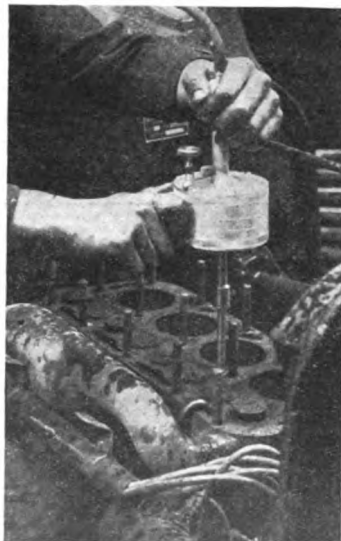
Olson Truck Unit

### OLSON TWO-TON TRUCK UNIT

This is a truck unit for converting a Ford 1-ton truck into a 2-ton truck. The load is carried directly on the wheel and the speed is reduced sufficiently to handle a 2-ton load. The weight is carried on side springs and an internal-gear drive is used for propulsion. The gear ratio is 10:1. The wheels are steel and are fitted with solid dual tires 32 x 3 1/2. Price \$550 for the unit.—Swedish Crucible Steel Co., Detroit.

### VELTUM PNEUMATIC VALVE GRINDER

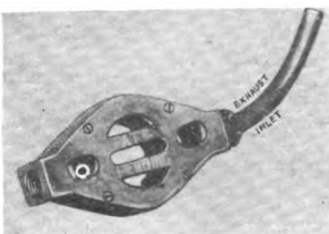
This is a pneumatic valve grinder which operates from air pressure varying from 15 to 500 lbs. It will grind valves up to 4 in. in diameter. The speed ranges from 50 to 1000 strokes per minute and this speed can be controlled by means of the valve. The machine develops 1/4 h.p. on 80 lbs. of air. Furnished complete with spring to put under valve and bits to fit any kind of valve. Price \$30.—Warnock-Wirth Co., Sioux City, Iowa.



Veltum Valve Grinder

### COLBURN ECONOMY VAPORIZER

This is a heating device which is installed between the carburetor and the intake manifold. It consists of a radiating element through which a portion of the exhaust gas passes, this being taken from the regular exhaust pipe by means of flexible tubing. It heats the mixture as it passes through the openings in the device. Price \$5.—Kant-Mis Spark Plug Co., Green Bay, Wis.



Colburn Vaporizer



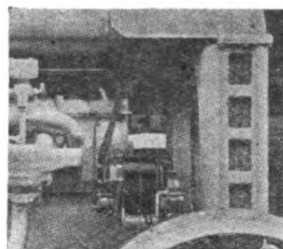
Utility Compressor and Tank

### UTILITY, AIR COMPRESSOR AND OIL TANK

This is an air compressor, consisting of an electric motor and two stage pump together with gage, hose and electric cord, mounted on the top of a truck, the lower part of which has two tanks, one for one grade of lubricating oil and the other for another grade. Draw-cocks are provided at the bottom with stands to hold measuring funnels. Net weight 375 lbs.—Utilities Sales Corp., Stock Exchange Building, Philadelphia.

### BOSCH MAGNETO FOR FORDSON TRACTORS

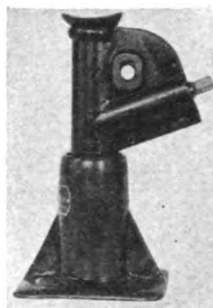
This is a complete equipment, including Bosch Magneto, gears and all necessary equipment to attach the Bosch magneto to the Fordson tractor. The magneto is installed by removing the timer, fastening the magneto brackets to the side of the crankcase, placing the gears in position and installing the cover on the gears. Only four wires are necessary in the system, these being the four that run from the distributor to the spark plug. The device can be installed without the use of special tools.—American Bosch Magneto Corp., Springfield, Mass.



Bosch Magneto for Fordson

### BENEDICT WORM DRIVE JACK

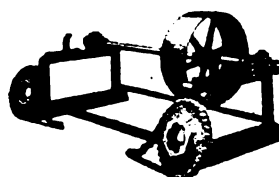
This is a worm drive jack with quick release lever. The friction of the worm is sufficient to hold the jack in any position without the use of pawls or ratchets. The load is carried on ball bearings and the base is adjustable by means of lugs giving three ranges of height to the jack before raising the screw. Price \$8.—National Machine Co., Inc., Brattleboro, Vt.



Benedict Jack

### SIMPLICITY DEMOUNTABLE WHEEL FOR FORDS

This is a complete outfit for Fords, consisting of four wheels, a spare wheel and wheel carrier, the wheels being quickly attached or detached by taking the nuts off the six studs on the flange, slipping the wheel off and slipping another wheel in its place. The complete outfit consists of the wheels, necessary hub attachments, carrier, wrench, nuts, etc. Price \$25.—Simplicity Wheel Co., Grand Rapids, Mich.



Simplicity Power Plant

### YORK CARBURETOR PERFECTOR

This is a gasket to be inserted between the carburetor and the intake manifold, the opening in the gasket being covered with a cone-shaped screen to break up the mixture. A small amount of air is automatically admitted through the air valves which are spring-controlled, the greater the vacuum the greater the amount of air admitted. Can be installed in a few minutes without any machining or special tools. Price \$6.—Automotive Mfg. Co., Dayton, Ohio.

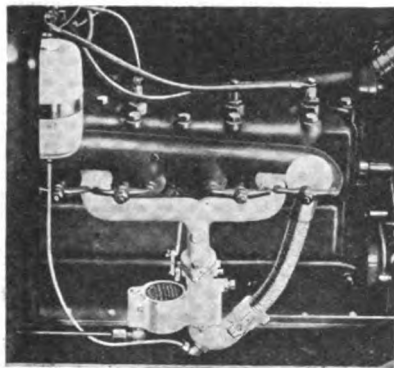


York Carburetor Perfector



### NITRO CARBURETER FOR FORDS

This is a carbureter for Fords and is designed to burn either gasoline or kerosene. The fuel jet throws the fuel out to the edge of a mushroom nozzle, the incoming air going past the edge of this mushroom at a high rate of speed breaks up and vaporizes the fuel. It is of the plain tube type and employs a floating venturi, thus compensating the ratio of air and gasoline. There is only one adjustment.—Sunderman Corp., Newburgh, N. Y.



Nitro Carbureter

### SCHEBLER MODEL A CARBURETER FOR FORDS

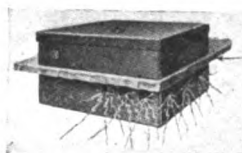
This is a plain-tube carbureter for Fords without any moving parts. The Pitot tube principle is so designed and so set that it automatically furnishes a rich mixture for acceleration and thins out the mixture after the normal engine speed has been reached. Two gasoline needle adjustments are furnished, one for low speed and the other for high speed. With these and a double choker, engine starting is made easy. The carbureter is especially designed for low grade fuel. Price \$17.—Wheeler-Schebler Carbureter Co., Indianapolis.



Schebler Carbureter

### ELECTRIC SENTRY

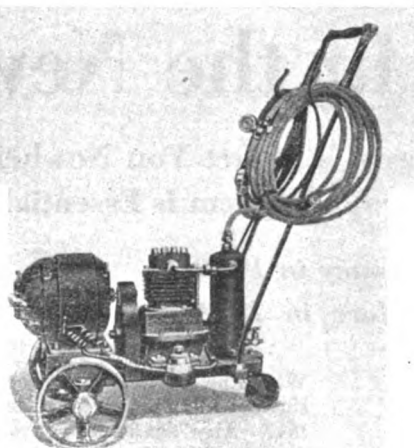
This is a thief alarm which operates an electric signal when the car is tampered with in any way. The device is contained in a steel box and to set the alarm it is only necessary to turn the key in the box. After the key is turned the car cannot be towed, pushed or carried away without the alarm sounding. Any tampering with the box will set off the alarm. Price \$25.—Electric Sentry Co., 118 South Sixth Street, Philadelphia.



Electric Sentry

### BRUNNER NO. 66 PORTABLE TIRE INFLATOR

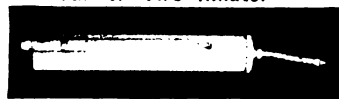
This is a portable outfit for inflating tires direct without the aid of a tank or storage system. It is mounted on a cast iron 2-wheel truck, with a substantial handle and hooks for holding electric cord and air hose when not in use. The electric motor drives a two stage compressor. A small chamber precipitates the moisture from the air before entering the tire.—Brunner Mfg. Co., Utica, N. Y.



Brunner Tire Inflator

### ATLANTIC PNEUMATIC GREASE GUN

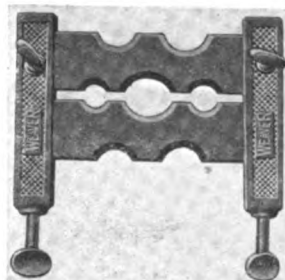
This is a cylindrical grease gun, 1 ft. long and 2 in. in diameter, holding 16 oz. of grease. It is operated by means of air pressure supplied by a hose connecting the gun with any compressed air system. The gun may be operated with one hand. All parts are machined and the gun is nickel plated. Price \$7 for complete equipment in wooden box.—Atlantic Motor & Supply Co., 1045 Tremont Bldg., Boston.



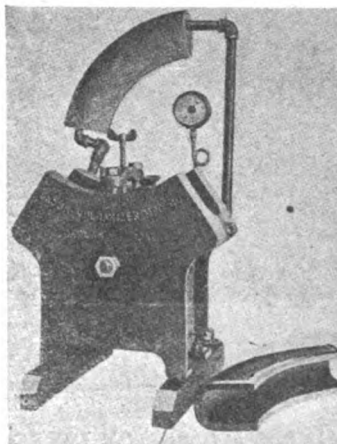
Atlantic Grease Gun

### SPLENDOLA CLEANER AND FINISH

These are two separate articles, the cleaner being in powder form and intended to be mixed with water to cut off corrosion, grease, mud spots, etc. The finish can be applied with a cloth. It is intended to restore the original lustre.—C. F. Roberts Co., 278-280 Brush Street, Detroit.



Weaver Puller Clamp



Bacon Sectional Vulcanizer

### WEAVER PULLER CLAMP

This is a device for clamping and supporting ball races or similar parts. The blades of the puller are equipped with notches of varied proportions and are designed so that they may be forced into contact with the part in question by means of thumb screws on the side brackets. The notched jaws of the puller can be forced securely into the grooves of the ball race on either side to enable it to be pulled off the shaft. The notches are of varied proportions to take different sizes. Price 9 in. plate, \$6; 16 in. plate, \$10.—Weaver Mfg. Co., Springfield, Ill.

### BACON SECTIONAL VULCANIZER

This is a one-fifth circle cavity, 18 1/4 in. long for curing 4 and 4 1/2 in. casings. A reducing shell, fitting into the cavity, permits the curing of 3 and 3 1/2 in. tires. All surfaces in contact with the tire are machine ground. An inside curing vulcanizer is attached to the outfit and the generator is on the bottom of the cavity. Either gas or gasoline burner is used to generate the steam, and the outfit is complete with four sets of bead molds for straight side and clincher tires, screw clamps, rag tightener and complete instructions.—Bacon Vulcanizer Mfg. Co., 1853 Thirty-eighth Avenue, Oakland, Cal.

### ARROW-GRIP JACK

This is a jack which is operated by an extension brace handle. The base of the jack is fitted with four wheels, so that the jack can be rolled in place, and these wheels disappear into the base of the jack as the load is applied, because they are mounted on springs. The raising is done by means of two simple gears and a screw jack. The handle folds up and jack and handle together occupy little room.—Arrow-Grip Mfg. Co., Inc., Glens Falls, N. Y.



Arrow-Grip Jack



Canton Muffler



Stewart Searchlight

### STEWART SEARCHLIGHT

This is a searchlight that can be turned in any direction or used as a trouble lamp for lighting the inside of the car. The attaching bracket fits all windshield standards. The reflector is silver plated, 6 in. in diameter and any sized bulb can be used. There is a 3 1/2 in. reducing mirror on the back.—Stewart-Warner Speedometer Co., 1826-1852 Diversey Boulevard, Chicago.

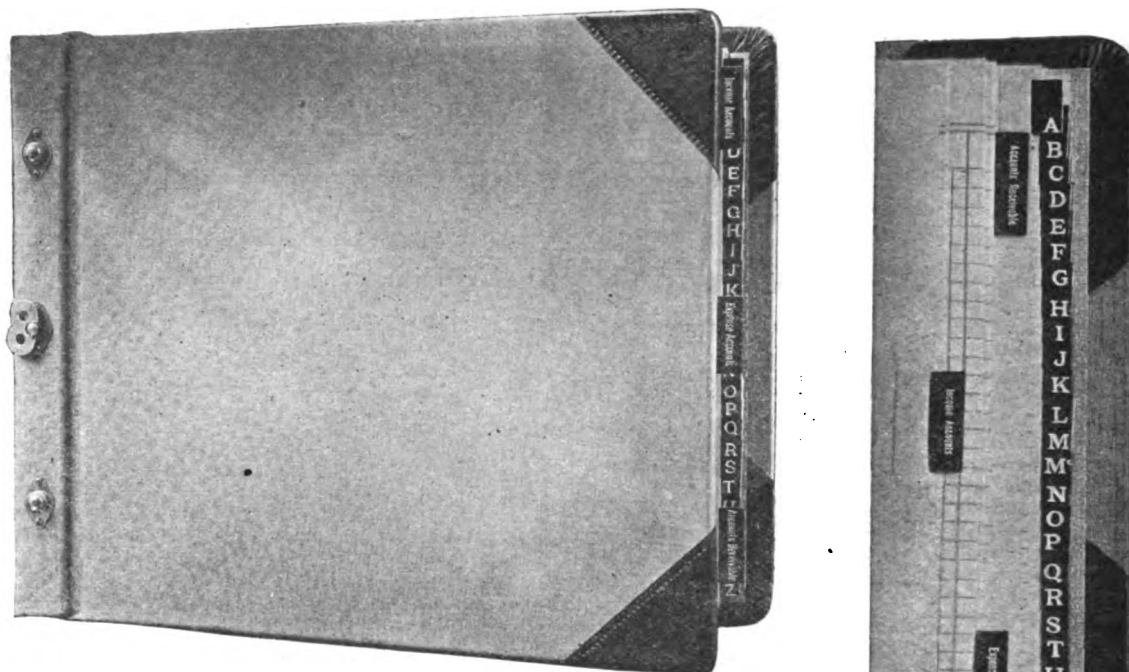
### CANTON MUFFLER FOR FORDS

This is a muffler for Fords and the muffling action is by means of concentric pipes one inside the other. It is interchangeable with the regular Ford muffler and can be attached by removing the regular muffler and replacing it with the Canton. Price \$2 each.—A. S. Canton Co., 258 Broadway, New York City.

### GILMER ENDLESS BELT

This is a fan belt made up endless with no splice. This is accomplished in the weaving. The belt is treated in such a way as to render it practically immune from the action of grease, oil and water. Packed 25 to the carton. Made in 11 different sizes at prices from 50 cents to \$1 each.—L. H. Gilmer, Tacony, Philadelphia.





**MOTOR WORLD SIMPLIFIED SYSTEM OF ACCOUNTING**—all in ONE book, 11½x15 in. With 100 income forms, 100 expense forms and 200 customers' accounts forms, for \$15. An instruction book that is a complete explanation of accounting will be sent for \$1. Read it. Then if you want the System you are rebated for the book, and if you want neither system nor book you may have your \$1 back. Extra forms are \$2 a hundred. Any man can become an accountant and, in a small business, keep his own books

*You Must*

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*Make More in 1920*

**T**HE NEW way of keeping books is to **MAKE THEM TELL YOU WHERE YOU'RE GOING.** The OLD way is to keep books as a matter of habit, yet not get from them that information which is a guide to you on your business course.

To keep books in the NEW way you must have a system and forms that keep track of the relations of your various departments, that show which departments are making money, that point out the sources of your leaks and losses, and that tell you costs, so that you may know what you must add to make a profit.

MOTOR WORLD, after long study of this business, devised a system. Illustrated at the top of the page is the system book. There are three forms—and that's all.

With the system is a book of instructions, which is an education in accounting. Any dealer or garageman, if he can read English, can learn to operate this system. Hundreds are in use today and have saved money for many users.

And then MOTOR WORLD devised forms for various purposes. They are illustrated on pages 93, 94 and 95. They show how you may watch your inventory and always know where you stand, how you may operate a prospect file, how you may check cars that are left in your garage, how you may check cars that come in for repairs, and how you may do many other things. Look these forms over, and if you have none that serve the same purpose **GET THEM.**



## Do You Need These Forms?

[illegible]

**PROSPECT CARD**—\$8 a thousand. Gives full information about prospects. The salesman should operate a file and also the sales manager. The card fits a standard filing drawer that can be purchased of any office furnishing company

[illegible]

**WORKMAN'S  
TIME CARD**—  
3 x 5½ — \$5 a  
thousand. For  
recording the  
number of hours  
the workman  
puts in during a  
week. There are  
spaces for the  
daily records  
and for the  
weekly totals

[illegible]

**CASING AND TUBE RECORD—4 x 6—\$8 a thousand.** This furnishes a record for all the tires you receive and sell. It tells when every tire was sold and to whom, which is valuable from both an inventory and an adjustment standpoint.

[illegible]

<b>Main 41</b>		<b>Acme Garage</b>	<b>71 Vanderbilt Ave.</b>
Name .....	Date .....	Job No. ....	
Home Address .....	Bus. Address .....		
Phone .....	Motor No. ....		Mileage .....
License No. ....	Description		
<b>Inspection</b>			
<b>MOTOR</b>			
Valve tightness			
Valve adjustment			
Carburetor adjustment			
Fuel strainer			
Vacuum system			
Ignition connections			
Ignition insulation			
Spark plug points			
Spark timing			
Carbon deposit			
Cooling system			
Fan			
Catalyst relay			
Voltage regulation			
Connections			
Insulation			
Starter			
Generator			
<b>CLUTCH</b>			
Cleaning			
Adjustment			
Lubrication			
<b>GEARBOX</b>			
Lubrication			
Adjustment			
<b>DRIVING MECHANISM</b>			
Universal lubrication			
Bevel gear adjustment			
Bevel gear lubrication			
Torque rod			
Radius rod			
<b>RUNNING GEAR</b>			
Brake adjustment			
Wheel bearing adjustment			
Wheel bearing lubrication			
Wheel alignment			
Spring lubrication			
<b>STEERING GEAR</b>			
Steering adjustment			
Steering lubrication			
<b>MISCELLANEOUS</b>			
Headlight focus			
Tire condition			
Sprockets			
Greasecap lubrication			
Tight nuts and bolts			
When promised .....		Tested by ..... O K'd by .....	
Work authorized by .....		Work accepted by .....	

**REPAIR ORDER**—6 x 9½—\$25 a thousand; \$37.50 for two thousand. Provides a memory-jogging column down the left side against which are checked by the examiner or inspector the work needed on the car. May also be used for inspecting used cars offered for trade.

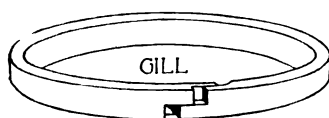


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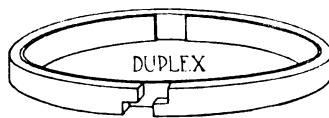








GILL



DUPLEX



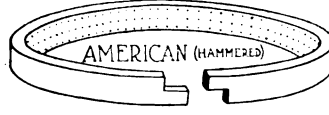
INLAND



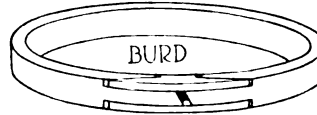
SEAL-TITE



SUPEROYL



AMERICAN (HAMMERED)



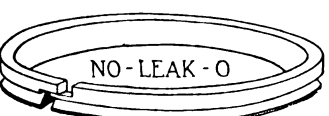
BURD



PEPGO



EVER TYTE



NO-LEAK-O



LEAK-PROOF



MUNGER

#### MICRO PISTON RING

This is a two-piece concentric ring, the larger member having a groove on the outside into which a smaller ring fits. The larger ring has a lap joint and the plain butt joint of the smaller ring comes on the opposite side of the cylinder. Made from flexible resilient metal which is not liable to break when fitting the ring. Made in all standard sizes to fit all makes of engines. Price \$1.50 each.—Micro Piston Ring Co., Inc., 110-116 Nassau Street, New York City.

#### AMERICAN PISTON RING

This is a one-piece concentric ring, hammered or peened on the inside and having a step joint.—American Piston Ring Sales Co., Newark, N. J.

#### INLAND PISTON RING

This is a one-piece eccentric ring made by cutting a continuous ring spirally for half the circumference and then heat-treating it to preserve the tension of the metal.—Inland Machine Works, St. Louis.

#### BURD PISTON RING

This is a one-piece concentric ring, in which the ends are milled to tongues, the latter being surrounded by a link or metallic guard which forms a tight joint. Made from gray iron and ground to size.—Burd Compression Ring Co., Rockford, Ill.

#### SEAL-TITE PISTON RING

This is a one-piece eccentric ring with patented lock joint. The ring is cast individually from gray iron with the scale left on the inside.—Seal-Tite Piston Ring Co., 1704 E. Lake Street, Minneapolis.

#### LEAK-PROOF PISTON RING

This is a two-piece concentric ring, the pieces being L-shaped, one fitting into the other in such a way that the ring openings are on opposite sides of the cylinder. Made of special processed grey iron. Each ring is packed in a parchment container and a number of these rings are packed together in a substantial box. Made in all sizes to fit all engines.—McQuay-Norris Mfg. Co., St. Louis, Mo.

#### SUPEROYL PISTON RING

This is a piston ring with a diagonal slot around the lower edge of the ring to catch the surplus oil on the cylinder wall and return it to the reservoir. One ring is intended to be used in the top groove of the piston and the slot is cut at an angle of 45 deg. to the cylinder wall so that the sharpened edge of the ring will gather the oil as the ring travels downward in the cylinder. Made in all sizes to fit any make of engine.—McQuay-Norris Mfg. Co., St. Louis, Mo.

#### DUPLEX PISTON RING

This is a two-piece concentric ring, consisting of a section cast iron snap ring with stepped joints and an inner guard ring of spring steel.—The Piston Ring Co., Muskegon, Mich.

#### MUNGER PISTON RING

This is a one-piece concentric ring, having a joint made by a double cut so that the contact surfaces at the end are at an angle to the side of the ring.—Splittorf Electrical Co., Newark, N. J.

#### NO-LEAK-O PISTON RING

This is a one-piece concentric ring, with stepped joints and an oil sealing groove, machined around its circumference. Lubricant is held in the groove to prevent the passage of oil up to the combustion chamber.—Automobile Accessories Co., 824 North Avenue, Baltimore.

#### GILL PISTON RING

This is a one-piece concentric ring with a stepped joint which overlaps both vertically and horizontally, and is designed to prevent the escape of compression or the passage of oil into the combustion chamber.—Gill Mfg. Co., 351-359 W. 59th St., Chicago.

#### PEPGO PISTON RING

This is a one piece ring made from an individual casting of close-grained gray iron. The joint is either stepped or diagonal. Each ring is finished on a special automatic machine.—Pennsylvania Piston Ring Co., 203-205 Sinclair Avenue, N. E., Cleveland, Ohio.

#### IMP AMMETER

This is an ammeter for use with battery charging outfits, motor generating sets, farm lighting plants, etc. The case is 4 in. in diameter and the mechanism is of the permanent magnet moving coil type, the whole structure mounted on a metal plate. The case is of heavy brass and the glass front is cemented in place. The connections are in the form of studs on the rear. Furnished in a wide range of readings from 0-1 to 200-0-200. Prices range from \$16.50 to \$24.—Roller-Smith Co., 233 Broadway, New York City.



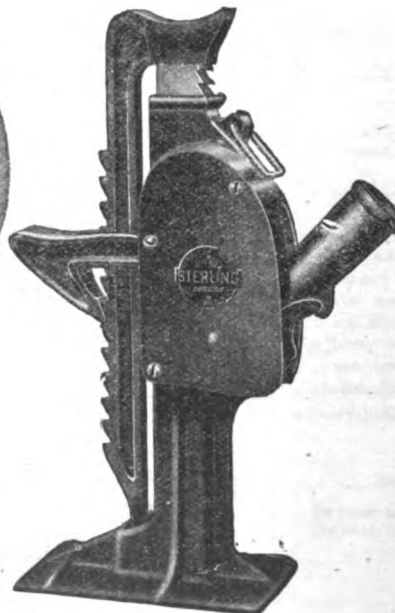
Imp Ammeter



Milwaukee Timer

#### MILWAUKEE TIMER FOR FORDS

This is a timer with one-piece steel stamping cover, nickel-plated over a coat of copper to make it rust-proof. The insula-



Sterling Jack

tion is a wide bone fibre ring fitted into the shell and the contacts imbedded into the fibre ring. The contacts are cold rolled steel, welded to the screw studs. The grooves are machine cut. The roller is high carbon tool steel machined and hardened and then ground. The timer fits the Ford car or the Fordson tractor. — Milwaukee Auto Engine & Supply Co., Milwaukee, Wis.

#### NO. 52 STERLING JACK

This is a jack with a capacity of 2 tons. The handle and pawl are made of heavy malleable iron and reinforced at all points subject to excessive strain. The pawls are held in place automatically and the rack is made of open hearth carbon steel. Price \$4.25. — Republic Auto Parts Co., 81-85 Tenth Street, Long Island City, N. Y.



**E. & S. SERVICE JACK**

This is a service jack equipped with wheels and with a 5-ft. lever for lifting front or rear axles of cars and wheeling them into position. The steel post is 5 in. in diameter and the weight complete is 25 lbs. Adjustable to 18 in. Price \$7.50.—Ellis-Smith Mfg. Co., Inc., Elmira, N. Y.

**UNIVERSAL 4 K-W GENERATING OUTFIT**

This is a farm-lighting outfit for battery charging and shop lighting. The 4-cylinder engine is mounted on a stand in unit with the generator. A governor maintains a constant speed and a dash pot prevents fluctuation. The engine operates on gasoline, kerosene or distillate. Price, with ordinary equipment, \$450.—Universal Motor Co., Oshkosh, Wis.

**COMBINATION TURN JACK & TOWING TRUCK**

This is a quick-acting and powerful jack for general service work and can also be used as a towing truck. The head is adjustable for height and when used for towing a clamping device is attached to the head, this device attaching around the front axle of the car being towed. An extension handle also replaces the regular handle and this is so arranged that it can be attached to the towing vehicle. Price \$50.—Ellis-Smith Mfg. Co., Inc., Elmira, N. Y.

**MOHAWK CORD TIRE**

This is a hand-made tire cured on air, the fabric being Sea Island and made up of small cords. Eight piles of cords are used in the 4½ and 5-in. tires and 6 piles in the 4-in. The tires are cured in French presses with long cure. Made in sizes from 33 x 4 to 36 x 6 in. non-skid and ribbed tread. Prices \$63.10 to \$133.—Mohawk Rubber Co., Akron, Ohio.

**BONNEY AUTOMOBILE PIPE WRENCH**

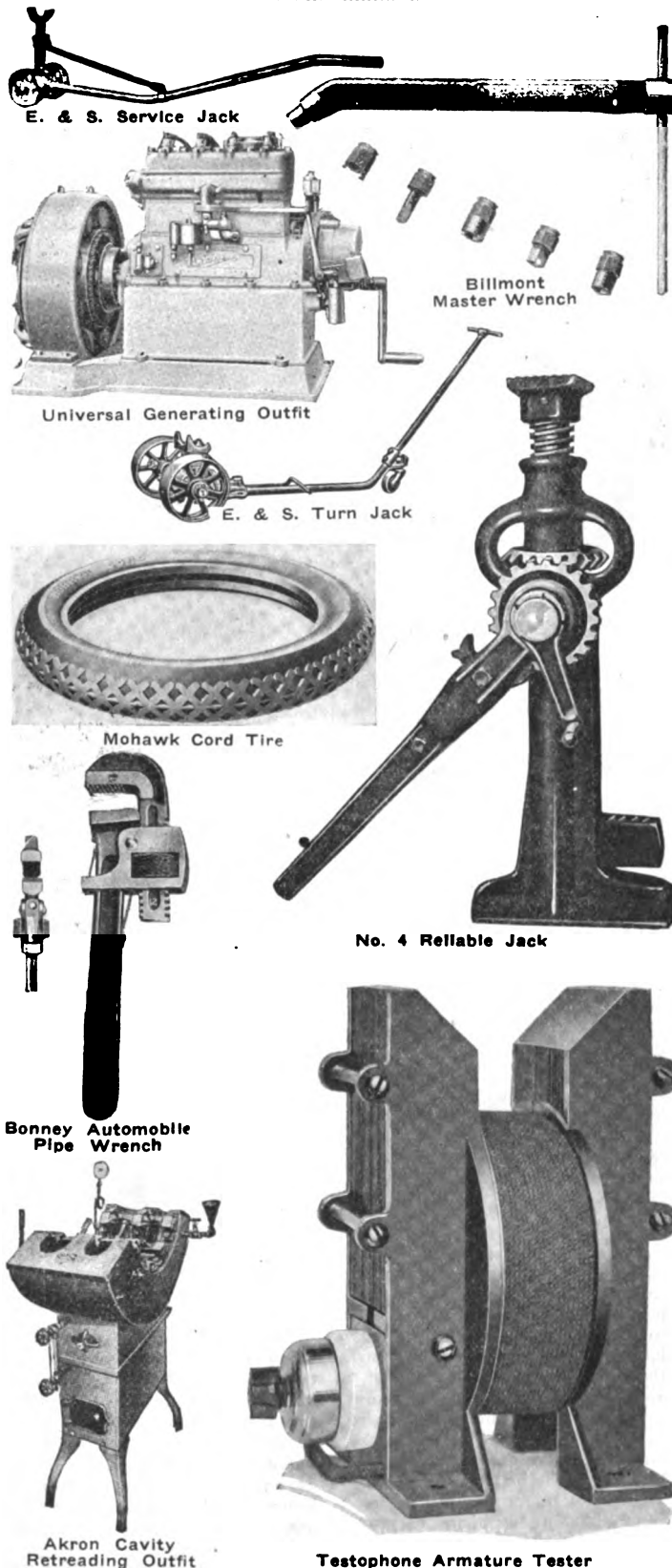
This is a pipe wrench with extra thin, closely milled jaws with fine teeth. This allows for use in close places and without danger of marring fine engine parts. Made in 6, 8 and 10 in. sizes. Price \$2 for 6 in., \$2.25 for 8 in. and \$2.50 for 10 in.—Bonney Vice and Tool Co., Inc., Allentown, Pa.

**AKRON CAVITY RETREADING OUTFIT**

This is a cavity retreading outfit for retreading tires without the use of a kettle. One-third of the tread is vulcanized on to the old tire carcass at a time, the entire tire being done in three operations. Wrapping is dispensed with and the time required to retread is no longer than with the ordinary kettle

**Let Them Be Seen**

Put your automotive equipment department in the garage where it can be seen by every one entering or leaving and it will increase the revenue, declares Ralph Hamlin of Los Angeles. Hamlin is the oldest continuous representative of one make of car on the Pacific Coast. For many years he carried no equipment. Then he started a department and it has been a money making proposition ever since. But the big thing, he says, is to have it so placed that owners will know about it. While waiting for their cars they wander about the garage, see something in the equipment line that attracts their interest and buy it.



outfit. The outfit consists of two cavities for 4½-5 and 3½-4 in. tire, the latter fitted with a reducing shell for taking 2½-3 in. sizes. Cavities are fitted with ribbed tread and plain treads can be accomplished by means of steel or composition strips fitted into the cavity. The outfit is complete with boiler, clamps, gage, safety valve, wrench, etc.—Akron Rubber Mold & Machine Co., Akron, Ohio.

**BILLMONT MASTER WRENCH**

This is a socket wrench in which the socket is held at an angle of about 40 deg. to the shank, the power being transmitted from the handle to the socket through a universal joint. The casing of the wrench does not revolve and it can be held with one hand while the turning is done with the other.—Edgar C. Guthard Co., 361 East Ohio Street, Chicago.

**RELIABLE JACK**

This is a jack with broad base and heavy construction for truck and tractor work. The jack is self-locking at any point and is quickly adjusted to height by means of the crank on side gear. The foot extension on the screw gives an extra lifting range. Weight 25 lbs. Capacity 3 tons on foot, 10 tons on top, range of height from 2 in. to 26 in., including both foot and top. Price \$10.—Elite Mfg. Co., Ashland, Ohio.

**FISHER TIRE AND TUBE PATCH**

This is a tire and tube patch made from high grade rubber gum having strong adhesive qualities. The back of the patch has a smooth surface to prevent friction and heat, and the tendency of the edges is to turn downward under expansion. Packed in screw-topped containers with strip of emery cloth and tube of dry patching cement. Prices 50 cents, \$1 and \$1.50.—Fisher Mfg. Co., Lincoln, Neb.

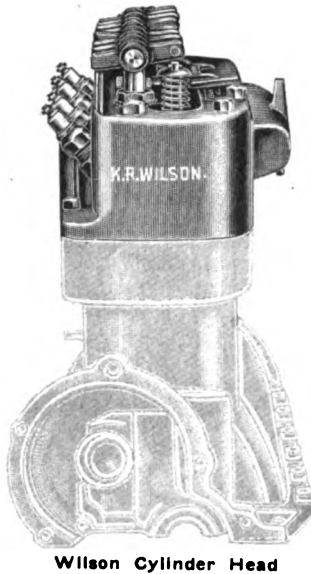
**TESTOPHONE ARMATURE TESTER**

This is a device for testing and locating grounds, shorts, open circuits, etc., in armature windings and commutators of any armature that will lie between the projecting poles. The device can be used on 25, 60 or 133 cycle alternating current at 110 or 220 volts, and can be attached to any lamp socket. The armature is laid across the poles and the operator wears the head band receiver over his ear. Trouble is evidenced by a loud buzzing noise in the ear piece. Price \$25, complete, with all attachments and instructions.—Electric Power Maintenance Co., 1101-1107 Monroe Street, Toledo, Ohio.



### WILSON OVERHEAD-VALVE CYLINDER HEAD FOR FORDS

This is a cylinder head for Fords, overhead valves being placed directly in the center of the cylinder. The valves are 1 1/4 in. outside diameter, with port openings 1 1/2 in. The regular Ford manifolds and carburetor are used and the spark plugs are put in at an angle of 45 deg., being almost in the center of the cylinder. Price \$60 complete with all attachments ready to put on the car.—K. R. Wilson, 10-16 Lock Street, Buffalo, N. Y.



Wilson Cylinder Head

### BULLDOG ACCELERATOR FOR FORDS

This is a foot accelerator for Fords. It consists of a button or pedal which is depressed by the toe to increase the speed, the heel resting on a slightly raised bridge. Connection is direct to the carburetor by means of soft steel parts. By unscrewing the foot pedal the floor boards can be removed without disconnecting any other part of the accelerator. Price \$1.50.—Fulton Co., 1910 St. Paul Avenue, Milwaukee.



Bulldog Accelerator

### CARSON SAFETY CRANK FOR FORDS

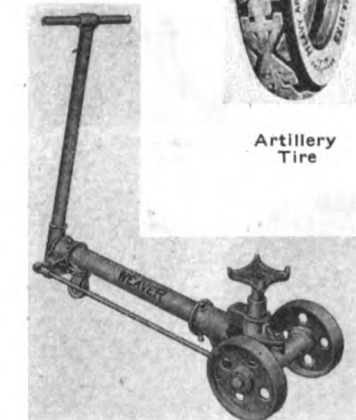
This is a safety crank to prevent injury to the operator caused by engine back fire. The mechanism consists of three parts of hardened steel, that part which comes outside of the radiator being so small as to hardly be noticed. Can be installed in a short time without the use of special tools. Price \$7.50.—Carson Mfg. Corp., Sixth & Main Streets, Richmond, Va.



Carson Safety Crank

### ARTILLERY CORD AND FABRIC TIRES

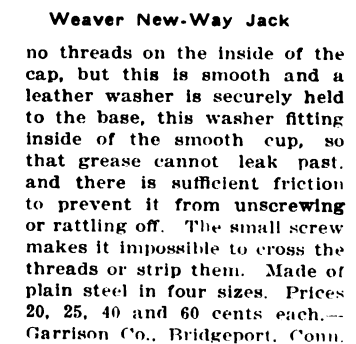
These are pneumatic tires made in both cord and fabric and in plain and non-skid tread. Made in sizes from 30 x 3 to 37 x 5.—Co-operative Tire & Supply Co., 323 East Thirty-third Boulevard, Chicago.



Artillery Tire

### WEAVER NEW-WAY JACK

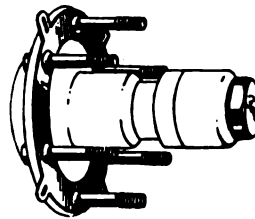
This is a castor jack of 5000 lb. capacity for use in shifting cars or trucks. The short construction enables it to be easily and conveniently manipulated in cramped quarters, and the pivot wheels are guided and controlled by the handle. A quick release latch on the handle provides for lowering the standard quickly to the minimum height. The handle cannot strike the car and the wheels are mounted on roller bearings. Price \$35.—Weaver Mfg. Co., Springfield, Ill.



Weaver New-Way Jack

### BRIDGEPORT CENTER-THREAD GREASE CUP

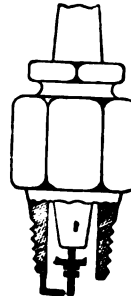
This is a grease cup with a screw electrically welded in the center of the cap, this screw screwing into a plate which is welded to the base. There are



Stone Wheel Carrier



Hill Plug



Ashco Plug



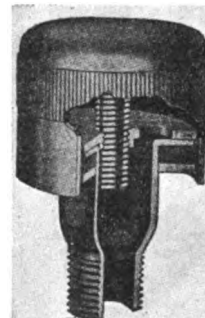
Bulldog Accelerator



Restgood Tent



Liberty Engine Support



Bridgeport Grease Cup

### FLECHTER TRIDENT CARBURETOR FOR FORDS

This is a carburetor for Fords, the design being such that no changes or machine work are necessary in substituting this for the regular carburetor already on the car. It is provided with choker, air valves, gasoline connection and throttle. Price \$10.—L. V. Flechter & Co., 192-200 Jackson Avenue, Long Island City, N. Y.

### STONE DEMOUNTABLE WHEEL CARRIER FOR FORDS

This is a demountable wheel carrier for Fords and is attached by removing the four nuts on the spring clips of the rear spring. The carrier has drilled holes which fit these spring clips and the carrier is put in place, the plates put on over the carrier and the four nuts replaced. Cotter pins prevent it from working loose. Price \$5.50.—Stone - Thompson Mfg. Co., 1502 Michigan Avenue, Chicago.

### HILL 3-A SPARK PLUG

This is a spark plug with a cup electrode of special tin alloy which is claimed to prevent carbon. The cup and center electrodes are clean and good conductors. The center electrode is packed with laminated mica from contact to cap. It is of one-piece construction and has no gaskets or bushings.—Hill Insulating & Mfg. Co., 511 West Forty-second Street, New York City.

### ASCHO SPARK PLUG

This spark plug has a small metal plunger which moves up and down on the electrode between the base of the insulator and the stop at the base of the electrode. The oscillation of this metal plunger is claimed to keep the base of the petticoat free from carbon. Price \$1.50. Apex Co., Evansville, Ind.

### RESTGOOD ROLL-A-BED TENT

This is a tent outfit including curled hair mattress and miscellaneous folding tourists' articles enclosed in a dustproof and waterproof cover, the entire outfit being within a compass small enough to be carried on the running board of the average car. The whole outfit can be set up ready for use in 15 min. Wilson & Co., Forty-second Street & Ashland Avenue, Chicago.

### LIBERTY ENGINE SUPPORT FOR FORDS

This is an engine support for Ford cars, the lower part consisting of a malleable iron casting fitting underneath the transmission case, this being supported by two wrought-iron hangers. The upper ends of these hangers go around the existing supports. The threaded hangers together with the nuts allow the strain and weight of the engine to be taken by the device rather than by the ordinary hangers. Can be attached in a short time without special tools or machine work. Price \$4.—Motor Support Co., 305 Manhattan Building, Chicago.



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### Hold the Car

Editor Motor World: Will you kindly let me know what course to take in the following matter: A, who is the owner of a Stutz car, brings it into my garage for dead storage and there is six months' storage due. B is a friend of A's, and informs me that he has a bill of sale on A's car and that I should not let any one take the car out without his consent.

Now along comes C, who asks me what the car is worth, etc. Upon my information he says "I have a note against this man—A. Get in touch with my office if any one makes a move to claim the car, as it is a part in the bargain."

This morning the owner, A, informs me that he has decided to sell the car, and I am to close the transaction for him on a commission basis. A has not paid any storage on the car since it was left at the garage.—Harry H. Archer, Proprietor Red Lion Garage, Flushing, N. Y.

Answer—Disregard all verbal claims made upon you. Hold it under your right of lien and do not allow it to go out of your possession. Under the New York law you may foreclose your lien and sell the car, but I would strongly advise you not to attempt to do this without the aid of your attorney, as the lien law is very technical and must be strictly followed.

### Tire Mix-Up

Editor Motor World: Please give us our status and recourse if any. On Jan. 3 we took over the ——— Tire Agency in three counties from the State distributors of Houston, Texas. We received our shipment but cannot get any more, through no fault of ours. We jump the distributor. They accept orders but make no delivery. The ——— Tire & R. Co. of Findlay, Ohio, positively says the distributor handles all orders.

Yesterday we took a shipment out of the express office here shipped by the factory direct to a private individual who wired for the tires at a price of \$5 per tire, cheaper than we were quoted.

Would Judge Hand's decision, recently noted in your journal, fit our case?

We have spent money in ads, literature, labor, etc., and have booked over 200 orders, but cannot get deliveries.—A. H. Dewar, Beaumont, Tex.

Answer—Both you and the other party are of course bound by your contract. The agreement alone controls. As I do not know which decision you refer to I

cannot advise you concerning it. The simplest thing for you to do is to take your contract, correspondence, etc., to your local attorney and let him do the worrying.

### New Jersey's Lien Law Strong

Editor Motor World: We think we have in this State the most equitable lien law in existence, and our association has been engaged in a fight to prevent the repeal of same, in which fight we think we have been successful. Will you be good enough to tell us what you think of this New Jersey lien law, and how it compares with the lien laws of other States? — B. H. Sparks, Automobile Trades Association, Atlantic City, N. J.

Answer—The New Jersey lien law by reason of the provision contained therein that garagemen shall not lose their lien by a reason of allowing a car to go out of their possession but may repossess themselves of the property without further process of law wherever found, in this State, is by far the most favorable statute for garagemen which has yet been passed by any of the States.

In most of the States a garageman loses his lien on a car when it is taken out of his possession. In a few States, like Illinois, he may recover back possession of the car by instituting an action in replevin. This remedy is not always satisfactory, as it requires time to start any kind of a legal action. Under the New Jersey statute if a garageman sees a car standing on the street, he can repossess himself of it. Under the other statute the garageman has to hunt up a lawyer, put up a bond, and by the time the action is under way the car is likely to be in parts unknown.

A few years ago the New York legislature when asked to enact a similar law refused to follow the New Jersey lien law on the ground that summarily retaking a car would tend to cause a breach of the peace, provoke riots, etc. I personally do not know of any case where the New Jersey lien law has done either of these things.

A few months ago the New Jersey Court of Errors and Appeals decided that the New Jersey lien law was not unconstitutional. Before that decision was handed down many people thought it would be decided that it was unconstitutional. The Court in deciding that case said:

"The statute is neither startling nor novel insofar as it enlarges or extends the right of lien to conditions not included in common law, but is in line with the natural progress of the law to meet necessities arising from new business conditions."

New Jersey garagemen would be foolish to allow this law which is so favorable to them to be repealed without putting up a strenuous fight.

### The New Jersey Lien Law

An Act for the better protection of garage keepers and automobile repairmen. *Be it enacted by the Senate and General Assembly of the State of New Jersey:*

Section 1—All persons or corporations engaged in the business of keeping a garage or place for the storage, maintenance, keeping or repair of motor vehicles and in connection therewith stores, maintains, keeps or repairs any motor vehicle or furnishes gasoline, accessories or other supplies therefor at the request or with the consent of the owner or his representative, whether such owner be a conditional vendee or a mortgagor remaining in possession or otherwise, has a lien upon such motor vehicle or any part thereof for the sum due for such storing, maintaining, keeping or repairing of such motor vehicle or for furnishing gasoline, accessories or other supplies therefor, and may without process of law detain such motor vehicle at any time it is lawfully in his possession until such sum is paid.

Section 2—Any person or corporation acquiring a lien under the provisions of Section 1 of this act shall not lose such lien by reason of allowing the motor vehicle or part or parts of the motor vehicle to be removed from the control of the person or corporation having such a lien, and in case a motor vehicle or part or parts are so removed the person or corporation having the said lien may, without further process of law, seize the motor vehicle or part or parts thereof wherever the same is or are found within the State of New Jersey.

Section 3—All such property so held by any such garage keeper or automobile repairman, shall, after the expiration of thirty days from the date of such detention be sold at public auction, upon notice of such sale being first published for the space of two weeks in some newspaper circulating in the city, town, township, borough or other municipality in which said garage keeper or automobile repairshop is situated, also after five days' notice of said sale set up in five of the most public places in said city or township, and the proceeds of said sale shall be applied to the payment of such lien and the expenses of such sale, and the balance, if any remaining, shall be paid to the owner of such property or his representatives, and if the said balance is not claimed by said owner within sixty days after said sale, then the balance to be paid over to the overseer of the poor of the said city or township for the support of the poor.

Section 4—This act shall take effect immediately.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2089—RADIATOR TEST TANK AND BENCH

A combination test tank and bench for radiator work is made by supporting the tank in a frame with an extension at one side, a sheet metal drain being added to the tank at this point. A movable rack of wooden slats rests on the top and this can be slid over the tank or over the drain part. The drain takes the dripping water and it is possible to test and work on the radiator without slopping water on the floor.—J. W. Waggoner, Banker's Garage, Lawrence, Kan.

## No. 2090—MOP OR BROOM HANGER

A hanger for brooms or mops is made by drilling a hole in one half of a large strap hinge, the hole being a little larger than the diameter of the broom or mop handle. The other half of the hinge is screwed to the wall or to a post. When the broom is slipped into the hole, the friction of the hinge holds it at any point. When the holder is not in use it drops down out of the way.—Oliver Wittenmyer, Pottstown, Pa.

## No. 2091—PULLER FOR PIERCE-ARROW STARTING RATCHET

A puller for removing the starting ratchet of the Pierce-Arrow is made by bending a piece of steel  $\frac{1}{2} \times 1$  in. in the form of a U, drilling and tapping the ends for  $\frac{1}{2} \times 20$  cap screws and drilling a hole at the head for a  $9/16$  in. cap screw. A hole  $\frac{1}{2}$  in. in diameter is bored clear through the ratchet and crank handle and when the two screws with the threads turned off the ends are placed in the ends of this hole and the large screw turned against the shaft, the ratchet will come off. The taper pin holding the ratchet on the crank is, of course, first removed.—Otis A. R. Wood, H. P. Hood & Sons, Charlestown, Mass.

## No. 2092—HANDY SCREWDRIVER

A handy brace screwdriver is made from a piece of round steel rod bent into the shape shown in the illustration, formed into a blade at the lower end and fitted with a doorknob at the upper end. The leverage is sufficient to turn screws that cannot be started with the ordinary screwdriver.—Charles H. Willey, Concord, N. H.

## No. 2093—THREAD CHASER

A thread chaser to clean out inside screw threads is made from a safety pin or piece of wire bent into this shape. The

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

1—Describe the shortcut briefly but clearly, in few words.

2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.

3—Write on ONE side of the paper only.

4—Sign your name and initials, the name of the company you are with, and the town.

Write plainly. If your name is unusual, print it in capital letters.

ends are pointed and bent at right angles and the spring keeps them pressed against the threads. One such chaser will answer for all diameters and all threads.—F. C. Woodland, Norris City Garage, Norristown, Pa.

## No. 2094—REPLACING A SPRING CLIP

When one leg of a spring clip springs out and is difficult to insert in the hole, a pair of blacksmith's tongs slightly altered will do the trick. One of the handles is given a short sharp bend at right angles and this is inserted in the lower end of the hole, the other handle being pressed against the spring clip to force it in place.—Rodney L. Wilson, South Berkeley Garage, Berkeley, Cal.

## No. 2095—NON-SPREADING PULLER

A puller that will not spread when the pressure is applied is made with two arms which have lugs formed on their upper ends, into which set screws are threaded. These set screws set up on the cross bar of the puller and prevent spreading. In use the set screws are

first loosened so as to permit the arms to be adjusted to the work and then tightened. All parts are made of forged steel and made extra heavy.—Charles H. Willey, Concord, N. H.

## No. 2096—SLIDING WINDOW LOCK

A lock for a sliding window is made by screwing half of a strap hinge to the edge of the window so that the lower point hits the slide at a good angle. The window will slide closed all right, the hinge trailing along, but the window cannot be slid the other way until the hinge is lifted. This lock can only be operated from the inside.—Charles H. Willey, Concord, N. H.

## No. 2097—PLANER OR DRILL CLAMP

A clamp to hold work on a planer or drill press table is made in the form of a lever held to the table at the center. The body of the tool is a short piece of 1-in. round stock, one end of which is drawn out flat and bent at right angles, the other end being slotted with a hack saw blade to take a  $\frac{3}{8}$  in. flat bar that forms the clamp arm. This arm is of  $\frac{3}{8} \times 1$  in. material and the end is bent around and riveted on itself, forming an eye which is threaded to take the cap screw. The other end of the bar is curved downward and a U-shaped swinging foot is pinned to it.—Charles H. Willey, Concord, N. H.

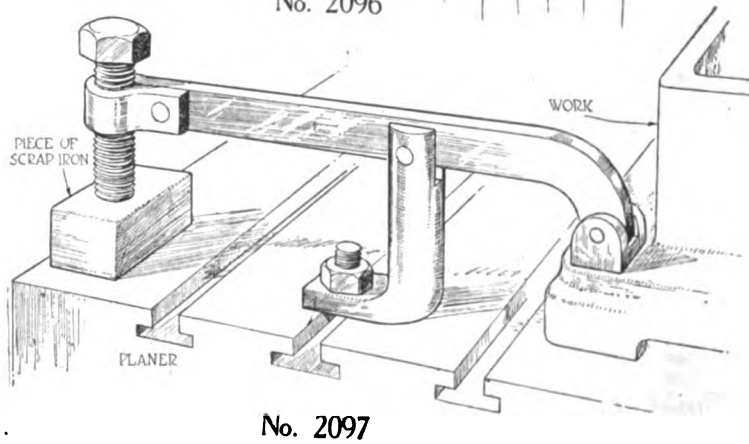
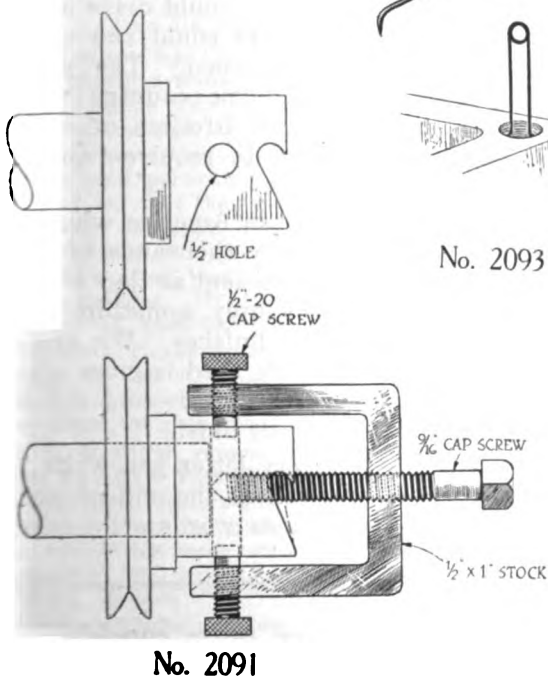
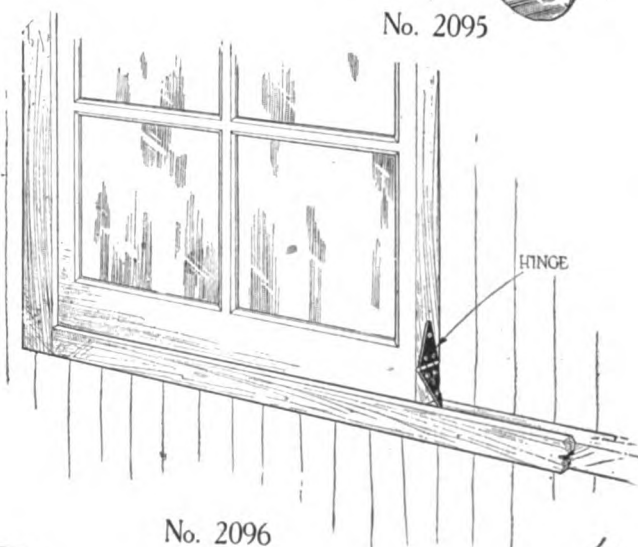
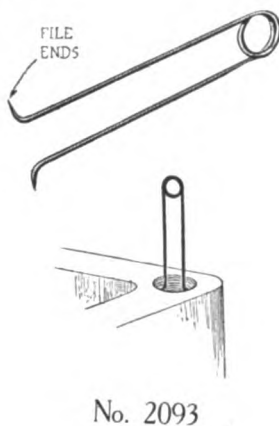
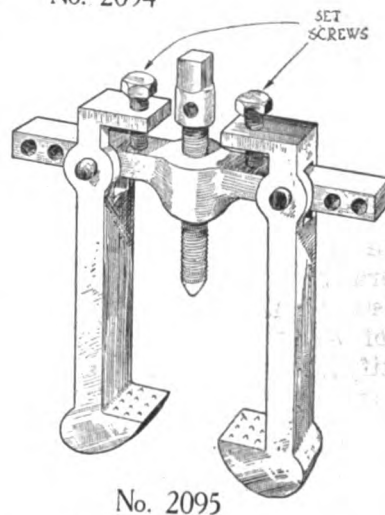
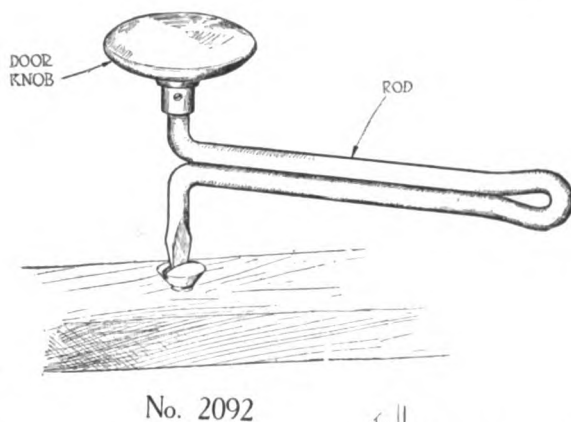
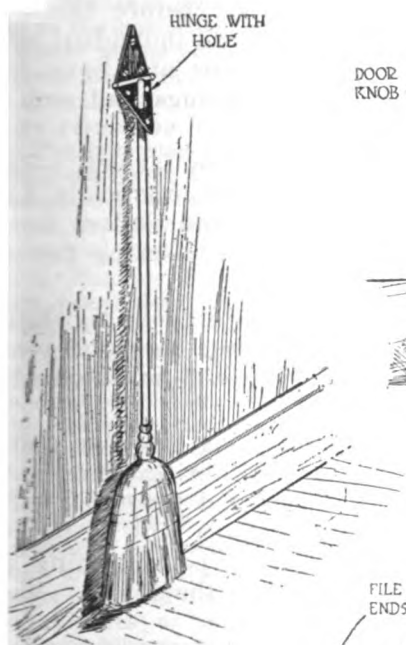
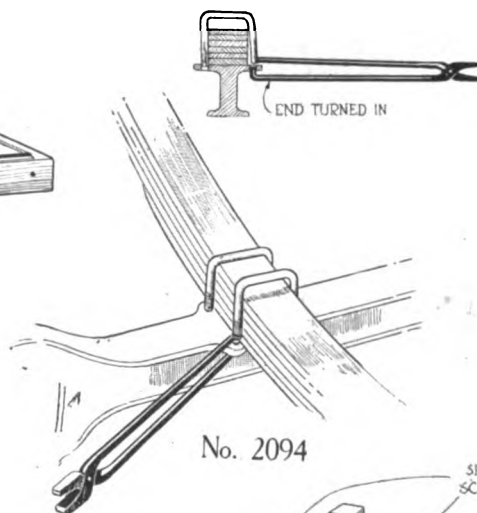
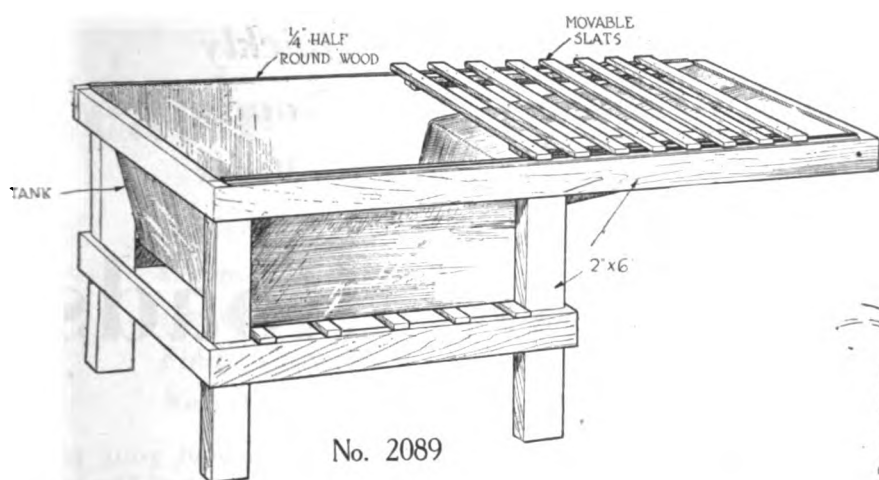
## New Selden $1\frac{1}{2}$ Tonner

ROCHESTER, April 14—The Selden Truck Sales Co. will commence deliveries of its new  $1\frac{1}{2}$ -ton worm drive model on April 21. It is equipped with a  $3\frac{3}{4} \times 5$  Continental Red Seal engine, with high tension magneto and Stromberg carburetor. It is to sell for \$2,185. Tires are  $34 \times 3\frac{1}{2}$  single front and  $34 \times 5$  single rear; pneumatic equipment is extra. The wheelbase is 140 in. and the length of the loading space 9 ft. 6 in.

## Massachusetts Wants Landing Places

BOSTON, April 10—The Massachusetts legislature has been asked to provide suitable aerodromes and landing places throughout the state for aviators in order that aviation may be developed in this territory. A few days ago George L. Ellsworth of the A. L. A. appeared before a legislative committee on a bill which was designed first to give the Highway Commission some power to license aviators and also to pick out places on which to land.







***"Build Now Good Roads and See How Quickly  
Good Times Will Roll Down Those Roads"***

**—Harry G. Moock**

# Build Now Good Roads

**B**UILD now good roads and see how quickly Good Times will roll down those roads," says Manager Moock of the National Automobile Dealers' Association at the end of every letter which goes out of his office. And the other officers and directors of the association are saying the same thing, repeating it day after day, week after week, month after month.

In the one sentence they have foretold more of the future of America than most people dream. They have also set forth the part that the automotive people of America must play in this work. They are justifying the existence of the N. A. D. A. if it does no other thing.

Good roads are the biggest issue before the American people to-day. They are the biggest movement with which the automotive trade can and should ally itself. For good roads mean more cars, more trucks, more tractors, more automotive equipment, more repairing, more of everything that is to-day being sold to the farmers where good roads prevail.

Aside from that here is a chance for the automotive people to mingle actively in civic affairs. It is an easy opportunity. The automotive people should long ago have been more active in affairs other than their own businesses and here is the big chance to do something that benefits the whole country and to work side by side with other people and other associations in a great movement. The dealers in every city should be a factor in the Chamber of Commerce. They should be engaged in movements and developments for the city and country. Good roads furnishes a fine starting point for what dealers should have done long ago.

In every section of the country dealers should begin NOW to take an active part in road work. They should support bond movements where they are started. Where they are not started they should get them started. Call a meeting of the dealers. Discuss the subject. Learn something about the roads in your section. Get data and figures.

Then discuss what is needed in the way of roads. Investigate and find out what it will cost to build

a great net-work of roads throughout your section. Call a later meeting of representatives of the various organizations in the city and lay before them the great good roads project. Then call individual meetings of all the other organizations and have good roads workers go to these gatherings and sell the good roads idea.

Work out a plan for selling the farmer. Show him how good roads by his farm practically hand him so many hundred or thousand dollars in increased valuation. Get every one working for and in favor of the project.

Then get some one to introduce in your legislature a bill authorizing a big bond issue for good roads. If every one is back of it there will be no question about it being passed.

Even the average non-car-owning city man should be for good roads in that they will bring closer to the city the products of the farms and favorably affect the cost of living. The politicians will be for the roads if they think the roads are a popular thing and if pressure is brought to bear by the voters. Votes count.

If every state would this year pass a bond issue for a great net-work of highways see what a wonderful thing it would be. Trucks could drive across the continent with freight. Cars could run everywhere. Distance would be lessened. The nation would become more efficient. The country would move faster and live faster. A lifetime of eighty years would include what used to require two lifetimes.

There probably isn't a dealer in America who isn't sold on good roads, but there are thousands of dealers who are not backing the movement as they should.

A successful movement is simply something that somebody starts and somebody finishes. We are all ready to help finish, but what we need is more starters. Let this trade furnish the starters and sell the country on the idea of helping us finish.

Meantime on the end of every letter you write, at the bottom of every ad you run at the end of every conversation you have put these words:

***"Build now good roads and see how quickly good times will roll down those roads"***



## Ford Motor Company

# Preaches Cleanliness and Efficiency

*Dealers Given to Understand That the Parent Company Insists Upon Clean, Up-to-Date Shops and Equipment and That Those Who Stick to the Old-Time Hand Methods and Who Turn Out Poor Work Will Soon Find Themselves Passed in the Race of Progress—Two Hundred New York Ford Dealers See Modern Repair Equipment and Listen to Ford Officials*

**N**EW YORK, April 11—Ford dealers to the number of about 200 gathered at the new sales building of the Ford Motor Co., at 1710 Broadway, this afternoon to attend a "clinic" on modern repairshop machinery and practice. The gathering was at the instance of the Ford Motor Co., and through the co-operation of the Fairbanks Co., which installed the machinery for the purpose and provided the tools.

Sales Manager Francis of the Ford branch opened the clinic with a short talk in which he said that the Ford Motor Co. had gone to considerable expense and trouble in getting up the exhibition, and he had no doubt but that the dealers would take every possible advantage of the opportunity to install new methods of repairing and up-to-date machinery in their repairshops. He said that the company would help and encourage every dealer who was progressive and showed a desire to help put the repair business on a high plane, and that the representatives of the company must improve conditions if they would keep pace with the representation that is being made by the Ford company itself.

### Clean Up and Paint

He then spoke of the necessity of clean shops, painting walls and ceilings and keeping things clean generally. Most buyers of enclosed cars, he stated, are fastidious as to the appearance of these vehicles, and particular care should be taken to see that they are scrupulously clean when delivered. He cited that the same care should be taken in turning out clean cars after they have come from the repairshops. He dwelt on the importance of covering the seats with newspapers, cleaning the body and protecting the upholstery and finish from grease and stains. He also suggested other plans for shop cleanliness.

A. G. McMillan, representing the Fairbanks Co., New York City, explained to the assembled dealers the methods used in cutting down time and labor and getting out better work with the modern equipment. He was assisted by a corps of Ford experts, who performed the various operations as questions were put and answered. That many of the dealers had never seen some of the pieces of equipment was evidenced by the interest,

the questions and the immediate orders given for the various lines.

Incidentally many questions arose as to correct methods of assembling and testing the Ford engine and other parts. An interesting discussion as to why the lamps were put in series multiple and what the effect was on the voltage and amperage when testing the magneto was answered by Ford officials and a practical demonstration given.

### That Mark on the Piston Ring

That there is a lot of room for education among the Ford dealers and repairmen was shown by the fact that only a very few of the two hundred in attendance knew that there was a chisel mark on the inside of the Ford piston ring, and some that knew it was there did not know what it was for. Francis explained that the mark was intended to be put on the top when the ring was assembled on the piston and that the purpose was to prevent the engine from pumping oil. The top of the ring is ground very slightly smaller than the bottom, and this makes a scraping action which brings down the oil. If the rings are assembled in the piston the wrong way up the opposite effect is produced and the engine will pump all the oil to the combustion chamber and the resulting carbon will produce a bad running engine.

The equipment exhibited included everything that would make work quick, easy and accurate, some of the machines being a burning-in machine, arbor press, lathe, crankshaft tester, arbors, engine and rear axle stands, piston vise, connecting rod alignment gauge, drum vise and a multitude of hand tools of various kinds for speeding up service work.

Service Manager Roe of the new repair branch at Kearney, N. J., spoke on co-operation from the dealers and how he was not getting it all the time. He suggested that complaints be taken up with the company rather than talked about. He suggested a thorough inspection of new cars before delivery to prevent comebacks.

Manager Gould of the New York Exide battery branch told how to take care of the batteries, which are now being installed on the enclosed cars, and said that until the Ford dealers become better acquainted with the storage bat-

tery the various service stations of the company are prepared to handle work on the batteries, both under the guarantee and for repairs.

The clinic wound up with a demonstration of the installation of the generator in the enclosed models, showing right and wrong ways of doing it.

### Jobbers to Hold Exhibit

CHICAGO, April 10—There will be a business exhibit of the Automotive Equipment Association in this city the latter part of October or first part of November, in connection with the annual meeting, as had been planned last year and dropped because of the war. This was decided at a meeting of the board of directors Tuesday. The matter of admitting other than members will be decided at the Hot Springs meeting June 2-6. Last year it was voted to admit outsiders if there was any space left after members were taken care of.

An exhibit committee was named, consisting of R. R. Englehart, Davenport, Iowa, chairman; N. H. Oliver, Chicago; Fred Campbell, St. Louis; R. A. Stranahan, Toledo; J. S. Proctor, Minneapolis; L. P. Halladay, Streator, Ill.

The name of the Ways and Means Committee was changed to Board of Governors. Discussion of the handling of the venue tax was left for the Hot Springs meeting.

### Fordson Dealers Get More

DES MOINES, April 15—The price of the Fordson in Iowa, Nebraska and South Dakota, the territory of the Herring Motor Co., has been advanced to \$926 f.o.b. Dearborn, Mich., plus handling charges. The dealer price remains as before, giving the dealer about \$40 additional, in lieu of an increase in the discount. The increase makes the discount 15 to 17 per cent.

### Demonstration at Aberdeen

ABERDEEN, S. D., April 15—The week of Aug. 18 has been set for the Northwest Tractor Demonstration, which will be held here. It is the only demonstration sanctioned by the Tractor Division of the National Implement and Vehicle Association and will be conducted under new rules being formed by that organization.



## KNOX AND MILITOR COMPANIES MERGED

### *To Continue Knox Engines and Militor Motorcycles and Add a Light Car*

NEW YORK, April 12—The Knox Motors Co., Springfield, Mass., and the Militor Corp. have been merged and will do business as the Militor Motors Co., with a capital of \$2,500,000. The company plans to increase the production of Militor motorcycles and will also add a light passenger car. It is planned to continue production of Knox engines.

The original Militor Corp. was organized for the production of war vehicles for the government and received contracts for a considerable number of four-wheel drive trucks, though these contracts were canceled before the company could get into actual production on them. The Militor motorcycle is a four-cylinder, shaft-driven vehicle, which differs from other motorcycles in that it is of automobile construction to a very great extent.

N. R. Sinclair, president of the Militor Corp., will be president of the new company. Associated with him are George W. Dunham, vice-president of the Militor Corp., and formerly president of the S. A. E.; second vice-president, R. L. Notman, secretary of the Militor Corp., and formerly vice-president of the McKinnon Dash Co.; treasurer, E. O. Sutton, formerly treasurer of the Knox Motors Co. Production activities will be centered in the Springfield plant, which has more than 230,000 sq. ft. of floor space and a complete equipment of machinery. General executive and sales offices are at 111 Broadway, New York.

### Michigan Votes for Roads

DETROIT, April 13—Michigan Monday voted overwhelmingly in favor of the \$50,000,000 good roads bond issue, the project carrying in nearly every precinct by a 4 to 1 vote. From the inauguration of the good-roads campaign until the very end there was no organized opposition. In two or three of the rural counties farmers who could see no direct benefit organized "dirt roads" associations and conducted a feeble fight.

### Boston Prepares for Loan Drive

BOSTON, April 10—J. W. Maguire (Pierce-Arrow) was chosen to-day by President J. A. MacAlman of the Boston Automobile Dealers Association to head the committee which will put over the big Victory Loan campaign in Boston for the motor industry. He will appoint a sub-committee to work with President MacAlman and himself in a few days.

Chester I. Campbell, who is co-operating with the government in the loan, received a long distance call from Washington this morning stating that a steamer had just arrived at Baltimore unexpectedly with more than 150 big

cannon captured in the war which will be used in the drive throughout the country. He was requested to take a train to get to Baltimore to superintend the unloading and disposition of the guns.

### Brown Heads Loan Drive

NEW YORK, April 12—C. M. Brown, president of the New York Automobile Dealers' Association, is to head the automotive and accessories trade committee of the Rainbow Division in the Victory Liberty Loan drive. Charles E. Miller, who served as vice-chairman in the Fourth Loan campaign, will serve in a similar capacity in the fifth, as will Secretary Charles A. Stewart, and George W. Holden, who will act as bond adviser. In the last campaign the committee exceeded its quota by \$447,000, the total amount sold being \$20,447,000.

### New Buildings for Olds

LANSING, April 11—The addition of five new buildings, with a combined floor space of 1,000,000 sq. ft., costing with equipment \$4,500,000 and an increase of more than 2000 employees, is the 1919 expansion program of the Olds Motor Works. The project is a phase of the \$37,000,000 expansion program of the General Motors Corp. recently announced by President W. C. Durant.

### To Make Claudel Carbureters

NEW YORK, April 8—The Aeronautical Equipment Co. has contracted with the Claudel Co. of France for the American rights to manufacture the Claudel carbureter. The contract calls for a minimum of 20,000 carbureters for the first year, progressing through a minimum of 100,000 carbureters in the sixth year. The company expects to exceed these figures.

### Rubber Imports Again Doubled

NEW YORK, April 12—Rubber imports for March reached a figure not attained by any single month in the past 4 years. The 28,223 tons of crude rubber brought in last month more than double the 14,079 tons for February, and as compared with 17,161 tons for March, 1918, show an advance of 11,062 tons.

### Abandon Used Car Show

MILWAUKEE, April 14—Because of the brisk demand for used or renewed passenger cars, the Milwaukee Automobile Dealers, Inc., has decided not to hold its annual Used-Car Show this spring. The affair was instituted in April, 1917, and repeated in the same month last year with marked success.

### Zeckendorf Heads Detroit Dealers

DETROIT, April 9—A. L. Zeckendorf, treasurer of the Detroit Automobile Dealers' Association for a number of years, has been elected president of that body. He succeeds Walter J. Bomb. Other officers elected were: Vice-president, J. C. Ayers; secretary, Guy O. Simmons; treasurer, W. D. Block; director, S. E. Cumstock.

## PLAN ORGANIZATION OF TRUCK DEALERS

### *National Association of Truck Sales Managers to Be Separate, However*

PHILADELPHIA, April 12—The National Association of Motor Truck Sales Managers will continue as a separate body and devote its energies and attention to the problems of merchandising, as hitherto. This decision was reached at the convention of the association held at the Bellevue-Stratford Hotel on Friday and Saturday, after careful consideration of many proposals and suggestions to do otherwise and to cast its lot through affiliations with other bodies.

It was also decided to appoint a committee to take up the question of organizing an association of motor truck dealers. The committee will determine whether it will be better to strive for the results which such a dealers' organization would yield through a separate truck dealers' association or through the co-operation of the sales managers' association with the National Automobile Dealers' Association. This committee will report at the next convention, which will be held in Detroit.

Future meetings of the association will be purely executive in character. They will be devoted solely to discussion of truck selling problems.

New members were elected to the association as follows: The Vim Motor Truck Co., Fulton Motor Truck Co., Noble Truck Co., Parker Motor Truck Co., Menominee Motor Truck Co., J. C. Wilson Co., Velie Motors Corp., Canadian Ford Motor Truck Co., Corbitt Motor Truck Co.

On Friday morning and afternoon executive sessions were held, at which a large number of speakers covered subjects of active interest to the members of the association. On Friday evening a dinner was attended by the members of the association and representatives of the trade in Philadelphia to a total of 300. As one of the chief speakers, John Barrett, director of the Pan-American Union, pointed out the commercial opportunities of the South American field and said: "It is up to us to insure our control of this field through ample supplies of shipping, credit and loans to the government. Thousands of miles of road will be built in the countries south of us within the next ten years, and for half a century to come the chief mode of transportation will be the motor trucks supplied from this country." Lee J. Eastman, president of the Packard Motor Co. of Philadelphia, made the address of welcome on behalf of the Motor Truck Association of Philadelphia and the Philadelphia Automobile Trade Association.

Other speakers at the door were Colonel Fred Glover, director of sales for the War Department, who assured the truck buyers that recent Army decisions prevented the unloading on the general market of large numbers of government



owned trucks; Senator James E. Watson of Indiana, J. S. Cravens, chairman of the Highway Transport Committee of the Council of National Defense, and former Congressman Rubin O. Moon.

#### Minerva to Make Engines

CLEVELAND, April 12—The Minerva Engine Co. has just been incorporated here under Ohio state laws for \$250,000 and will engage in the exclusive manufacture of truck and tractor engines. The officers and directors are well-known Cleveland men. They are: President, C. S. Goby; vice-president, R. K. Johnson; secretary, L. R. Long; directors, E. P. Dowling, John R. Dowling, H. F. Eilbert and J. J. Cummings. Offices have been established in the Vickers Building.

Experiments and tests are completed and preparations are well under way for immediate production. The company expects to give employment to several hundred men. For the present the company will make only its Model A engine. This is a 50-horsepower machine. This engine will be manufactured for other lines as well as tractors and trucks. A plant will be erected early this spring.

#### Standard Parts Has New Department

CLEVELAND, April 14—A replacement-spring department has been started by the Standard Parts Co. to supply replacement springs to dealers and jobbers. Branches with complete stocks and equipment have already been established in New York and Cleveland and distributing connections are being negotiated in other large centers. The department will be in charge of B. R. Winborn as general manager and P. S. De Vilbiss will be his assistant.

#### Wichita Demonstration July 14

CHICAGO, April 12—It is likely that the Wichita Tractor Demonstration, which was scheduled for the week of July 21, will be held instead during the week of July 14. The advance in date is likely because of land conditions. The demonstration is being staged by the National Implement & Vehicle Association, of which E. W. McCullough is secretary and general manager.

#### New Torbensen Axle Officials

CLEVELAND, April 9—J. O. Eaton was elected president and W. J. Baxter and C. F. Hepburn vice-presidents at the directors' meeting of the Torbensen Axle Co. Other officers are: Chairman of the board, V. V. Torbensen; treasurer, F. A. Buchda; secretary, A. H. Ido; assistant secretary, R. C. Hyatt, and comptroller, M. M. Risberg.

#### Dorr-Miller Buys Ward

NEW YORK, April 12—The Dorr-Miller Differential Co. has purchased the interests and plant of the Ward Machine & Tool Co., Detroit, and will correspondingly increase its manufacturing facilities. A part of the plant will be devoted entirely to the special differential for Fords. This type is to be distributed through county agents who are now being appointed.

## G. M. PROFITS INCREASE \$26,127,754 IN 1918

**Sales Aggregate 246,834 Cars  
Valued at \$326,044,755  
—Profits \$45,541,726**

NEW YORK, April 12—Net profits of the General Motors Corp for the year ending Dec. 31, 1918, increased \$26,127,754 over the balance for the previous year, and during that time net sales of all companies were 246,834 cars, valued at \$326,044,755.

During the year the company's assets increased \$165,699,611. This increase in assets is made up to a considerable extent of increased holdings in real estate, amounting to approximately \$46,000,000, \$27,000,000 increase in investment in Liberty bonds, about \$44,000,000 increased value of inventory, \$7,000,000 due from the government on war contracts, an increased valuation of \$24,000,000 on goodwill, patents, etc., and about \$16,000,000 increase in notes and accounts receivable.

After deducting reserves for federal taxes and other contingencies amounting to \$28,000,000, the surplus for the year increased \$24,900,545 and is now \$36,408,937. On Jan. 1, 1918, the working capital of the corporation was \$64,554,765, but by Dec. 31 this had increased to \$149,902,028, the increase being \$85,347,263. The net manufacturing profits amounted to \$35,504,576 after deducting \$4,616,344 to cover depreciation of buildings, machinery and equipment. These profits are exclusive of profits which accrued to the several companies in 1918 prior to their acquisition by the corporation.

The combined profits of the corporation and subsidiary companies before deducting federal taxes for the twelve months ending Dec. 31, 1918, and including the proportion of profits which accrued to the several companies in 1918 prior to their acquisition by General Motors, amounted to \$45,541,726.

#### Dawson Manages Gary Truck

GARY, IND., April 12—A number of important additions have been made to the personnel of the Gary Motor Truck Co., although the officers remain unchanged. Frank Dawson has been appointed general manager of the company. He was formerly factory manager of the Randolph Motor Truck Co., Chicago, was later with the Mogul Truck Co., St. Louis, and in 1916 was appointed factory manager for the Master Truck Co. E. Von Rakowski has been appointed chief engineer and has been closely associated with Dawson for several years past. Theodore B. W. Zumstein has entered the sales department. The Gary company has just closed a contract with the Cooper Motor Co., Kansas City, with branches in Omaha, Tulsa and other western and southwestern cities, for more than a million dollars' worth of Gary trucks, which are to be delivered within the next twelve months. The company

will operate as a factory branch and will have exclusive sales of Gary trucks in Missouri, Arkansas, Oklahoma, Western Iowa, Nebraska and South Dakota.

#### Crow-Elkhart Is Reorganized

ELKHART, IND., April 10—The personnel of the reorganized Crow-Elkhart Motor Co. is as follows: President, M. E. Crow; first vice-president, E. C. Crow; vice-president and general manager, M. E. Henshaw; secretary, D. C. Thomas; treasurer, Henry Lichtig; vice-president and purchasing agent, H. B. Schmid. The officers, with S. H. Penfield, vice-president of the Salisbury Wheel & Axle Co., Peru Auto Parts Co. and Norwalk Auto Parts Co., and also identified with a number of other parts manufacturing concerns, comprise the board of directors. The St. Joseph Valley Bank of Elkhart has been appointed trustee for the note-holders. The company expects gradually to build up its production to 15 cars a days within the next 60 days. Orders are booked at the present time for the first 60 days' production.

#### National Body Reorganized

NASHVILLE, TENN., April 12—National Body & Mfg. Co. has been completely reorganized as the National Body Mfg. Co., with a capitalization of \$50,000, and will immediately start production of five-passenger bodies. H. O. Blackwood, owner of the H. O. Blackwood Tire Co., Nashville, Tenn., is president of the concern, the other officers being Charles R. Wood, Nashville automobile dealer, and Pollard Caldwell, the president of the Sterling Candy Co., who are vice-presidents; J. N. Moorehead, secretary-treasurer.

#### Pierce-Arrow Sales Increase 27 Per Cent

BUFFALO, April 10—Gross sales of the Pierce-Arrow Motor Car Co. increased about 27 per cent during the year ended Dec. 31, 1918, or from \$32,565,908 in 1917 to \$41,354,439 in 1918, and in this period the company produced 8635 vehicles, of which 1168 were passenger cars and 7467 were trucks. In 1917 the company produced 7703 vehicles, of which 2532 were cars and 5171 were trucks.

#### Elyea-Austell Changes Name

ATLANTA, April 12—Elyea Co. is the new name of the Elyea-Austell Co., jobber. The change in name presages no change in management. Mr. Austell has not been a stockholder in the company since 1916, and because of this his name has been dropped. The company is broadening its scope to cover the entire south Atlanta territory.

#### Goodrich-Lenhardt Offices in Hamburg

HAMBURG, PA., April 10—The general offices of the Goodrich-Lenhardt Mfg. Co. have been moved here, where the company has recently completed a new factory building. A sales office will be maintained in the Widener Building, Philadelphia, where it has been located for the past three years.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

**O. S. Tweedy**, vice-president and general manager of L. A. Young Industries, Inc., Detroit and Shelbyville, Ind., has resigned.

**R. E. Robinson**, Kansas City, formerly with the Goodyear Tire & Rubber Co., has become active head of the Osgood-Robinson Tire Co. at 1518 McGee, a new firm, distributing Goodyear truck tires and retailing Goodyear automobile tires.

**A. J. Davis**, formerly a Hudson salesman in Los Angeles, has joined the Security Motor Co., Kansas City, which handles the Velle and Cole.

**George Hamilton Stone**, Kansas City, formerly with the Hyatt Motors Co., and later manager of the Kaw Valley Buick Co., Kansas City, Kan., has become treasurer, manager and stockholder in the Warne Motor Co.

**W. R. Stewart**, Mound City, Kansas, has been made salesman for the Dort and Nash Six cars and the Cleveland tractor, which are handled by the Jefferson Highway Garage.

**Captain B. J. Lemon**, recently discharged from the motor and rail transport service, is now associated with the Kansas City branch of the U. S. Tire Co., where he will do special work in the sales department.

**M. E. Mathews**, Wichita, Kan., is the new sales manager of the Wichita Oakland Motor Co.

**J. F. V. Voorhees**, recently discharged from army service, has been appointed manager of the Pioneer Auto Laundry, 1709-11 McGee, Kansas City.

**P. F. Minnock**, formerly branch manager at Des Moines, Iowa, and Columbus, Ohio, has taken charge of the Ford Motor Co. plant at Kansas City.

**C. C. Willetts**, Davenport, Ia., has been appointed manager of the Wisconsin district for the White Co., Cleveland, with headquarters at 428 Jefferson Street, Milwaukee. He succeeds Matthew C. Moore, who has resigned because of the press of other affairs.

**Frank M. White** has joined the Emerson-Brantingham Co. organization as director of its Farm Power Bureau. This new department has been organized to develop a closer relationship between Emerson-Brantingham dealers, owners, and the home company.

**C. W. Whitton**, until recently sales manager of the Panhard Motor Truck Co., of Grand Haven, Mich., has been made district sales manager for the Nelson Motor Truck Co., Saginaw. He will handle the southwest territory with headquarters in Los Angeles, Cal. **J. F. Fernhough**, formerly district representative for the Bethlehem Motor Truck Co. in the Middle West, will be in charge of the northwest territory sales of the Nelson Co. Chicago will be his headquarters.

**John A. Glaspy**, who has been manager of the Milwaukee branch of the Kelly-Springfield Tire Co., has resigned to become assistant general sales manager of the International India Rubber Corp., South Bend.

**S. Bloom** has been appointed director of advertising for the Essenkay Products Co., Chicago.

**John Doherty**, formerly president of the Acason Sales Co., Philadelphia, has become

associated with the H. Kleinhans Co., Pittsburgh, and will have charge of the Acason truck sales of this company's business.

**M. W. Bartlett**, for several years identified with the Splittorf Electrical Co., has joined the Wire Wheel Corp. of America. He has been given charge of the corporation's Eastern District interests with headquarters in New York, service direction and expert matters coming under his immediate supervision.

**J. D. Mooney**, recently discharged from his military duties as captain with the 309th Ammunition Train, has gone with the General Motors Corp., New York. He was manager of the Hyatt Roller Bearing Co.'s Industrial Division prior to joining the army in 1917.

**Col. William Guy Wall** has returned to Indianapolis to assume his connection as vice-president and chief engineer of the National Motor Car & Vehicle Corp. He has been chief engineer of the National factory for 15 years. He headed that section of the ordnance department charged with design, construction and maintenance of armored cars, tanks, ammunition trucks and artillery tractors.

**Clark W. Upp** has been appointed special foreign representative of the Federal Motor Truck Co. to cover the West Indies, South and Central America and Mexico.

**F. M. House**, who has been with the Republic Motor Truck Co. for many years, has been appointed manager of the Pacific Coast sales division of that company.

**William R. Blackburn**, for 12 years connected with the Cadillac Motor Car Co., lately as factory manager, has become manager of the Grey Motor Co. and will have charge of the production of the Grey four-cylinder Liberty engine.

**W. G. Langdon**, who has been with the Willys-Overland Co. for some time, has been made assistant general purchasing agent of that company. He was formerly connected with the Michigan Stove Works and later with the Hayes Mfg. Co.

**Lee Barnhart**, formerly with the National Biscuit Co., has been made city salesman of the Nash Sales Co., Grand Rapids, Mich., Nash distributor.

**Albert Kroeze**, formerly connected with the Toledo Plate & Window Co., has been made city salesman in Grand Rapids, Mich., for the B. F. Goodrich Rubber Co. branch there.

**W. L. Mahon**, who has been with the General Motors Truck Co., Pontiac, for some time, has been made manager of a new department of the sales division of that company. He will have charge of research and statistics and preparing data on motor truck operation for GMC owners.

**Paul Weihener**, who comes to the motor truck field from the farm implement business, has joined the factory sales department of the General Motors Truck Co., Pontiac.

**E. W. Sudduth** has been appointed Southern district representative of the Rainier Motor Corp. and will make his headquarters in Birmingham. He was formerly in the

same territory for the Bethlehem Motor Truck Co.

**V. N. Barton** has been added to the sales engineering department of the Duplex Engine Governor Co., Brooklyn, N. Y., and will cover Pennsylvania and the southern states. **R. Weston Doherty** has been appointed to a similar position covering New York, New Jersey and New England territories.

**C. K. Sincebaugh** has severed his connection as sales engineer with the tractor equipment division of the Remy Electric Co. and is associated with the Rex Machine Co., Chicago, as general manager.

**R. T. West** has been appointed sales manager for the Hession Tiller & Tractor Corp., manufacturer of the Wheat tractor.

**Lieut. Herbert A. Arronet**, Albany, N. Y., after service as chief mechanic of a motor truck group at Camp Dix, and formerly with the Packard Motor Co., has become associated with the Boulevard Garage Co.

**Clarence A. Houck**, Albany, N. Y., has joined the sales force of Henry Arnink for the sale of Cunningham cars at 74 Hudson Avenue.

## Reorganize Highways Transport Committees

WASHINGTON, April 11—The Highways Transport Committee of the Council of National Defense has been reorganized so as to include direct representation from the Office of Public Roads of the Department of Agriculture; the Bureau of Markets of the Department of Agriculture, the Post Office Department and the Department of Commerce. The committee as reorganized comprises:

John S. Cravens, of the Council of National Defense, Chairman; James I. Blakslee, Fourth Assistant Postmaster General; J. M. Goodell, consulting engineer, Office of Public Roads; James H. Collins, investigator in Market Survey, Bureau of Markets; R. S. MacElwee, second assistant chief, Bureau Foreign and Domestic Commerce; Charles W. Reid, executive secretary; G. B. Clarkson. The committee will be assisted by the Highways Transport Committee Advisory Board, comprising: William Phelps Eno of Washington, D. C.; Prof. Arthur H. Blanchard of New York; C. A. Musselman of Philadelphia; Raymond Beck of Akron, Ohio; John T. Stockton of Chicago.

Special co-operation and attention is going to be given to the short haul problem as connected with the United States Railroad Administration and rural motor express as related to interurban electric line and waterways traffic.

## Moon Producing Victory Model

ST. LOUIS, April 14—The Moon Motor Car Co. is now in production on its new Victory model, which is to sell at \$1,685, and which was first exhibited at the St. Louis show. It is a 5-passenger, 118-in. wheelbase car, equipped with a 3¼ x 4 six-cylinder Continental engine.

## New Plant for Columbia

DETROIT, April 12—The Columbia Motors Co. will soon be housed in a new factory. The present plant is not adequate to care for the expanding business of this company.



## GOVERNMENT NOT TO AUCTION ITS TRUCKS

### N.A.D.A. Has Busy Time with Rumors and Organizes Protest Against Auction

ST. LOUIS, April 14—The N. A. D. A. has just passed through a very busy week, chiefly owing to the report that had reached all sections of the country that the Federal Government was going to auction at once all motor trucks not required for the use of government departments. The report indicated that there were a great number of these.

First the N. A. D. A. went to Washington for definite information and learned, through inquiry of its members there, that such an auction had not been decided upon and probably would not be decided upon for several weeks, if ever. The chances were that no such auction would be held.

But calls came to the N. A. D. A. from every quarter and from motor truck sales branches as well as from independent dealers. In doing what he could to allay any fear of immediate upset of the motor truck market by such a sale Business Manager Harry G. Moock began organizing a protest against such action. He asked all of those showing enough interest to inquire to send their objections to the proper authorities at Washington. Also he got other N. A. D. A. channels busy.

President F. W. A. Vesper of the N. A. D. A. aided in this work of organizing a protest and allaying nervousness, but he gave the following statement as his belief of the situation:

#### Vesper's Statement

There can't be any such a thing as cheap trucks because of those held by the War Department. Half of the trucks the army took over were sent to France. They may never be brought back. If they are, it will be months hence. "Get the soldiers home first" is the cry. Ship space that can carry men back will not be used for motor trucks.

The biggest part of the trucks used on this side have been put under terrific strain. Many of them have been broken down by the inexperience of their drivers, the intensive treatment to which they were subjected and the other altogether unfavorable conditions of the service. If trucks are offered for sale, they will be junk. They will be of value only to a rebuilder. The user of a truck will devise no benefit from these offerings.

Another thing, more important still, than the others:

Because of the scarcity of the shipping, trucks delivered by the manufacturers to the War Department for shipping abroad stood in open spaces and in commons by the thousands throughout the winter. Some of them became mired down to the hub. The rain and the snow beat on them all winter. Their deterioration was such that for the most part they never will be available for use except for junk.

The man who is going to buy a truck should learn right now that the army hasn't any trucks at all for sale to the public.

When that idea gets through his head, conditions in the truck market are going to be better for both the dealer and the buyer.

### Few Government Owned Trucks to Be Marketed

WASHINGTON, April 15—Figures so far compiled by the War Department indicate that there will be a surplus above the needs of the department of about 30,000 trucks and 5000 passenger cars, the latter mostly Fords. This estimate does not take into consideration what other Government departments may require.

After determining the surplus definitely the War Department will request requisitions from other Government bureaus and offer the remaining trucks and cars to manufacturers at reasonable figures, and if any remain they will be sold to the public. As Government bureau requisitions already total 25,000 trucks and several thousand passenger cars, it is expected that there will be few cars and trucks remaining to be offered to manufacturers and practically none for the public.

#### Tractor Dealers Form Club

GREAT FALLS, MONT., April 12—H. F. Merritt has been appointed temporary chairman of a tractor distributors' and dealers' club which has been formed here.

## IS BUSINESS GOOD?

### Total Cadillac Sales in One Week 105 Cars—Valued at \$359,000

BOSTON, April 12—Returns being compiled by Boston dealers following the show are the best indication that the men in the motor industry this year will not have to play Davy Crockett to keep the wolf from the door, but may have to emulate him to keep out the horde of hungry motor car seekers.

Take the Cadillac Automobile Company of Boston as an example. A. L. Danforth, president of the company, announced before the show that every salesman exceeding a certain quota would get a bonus. And the men went to it with a rush. As a result of show week the Cadillac salesmen sold 70 cars at retail. They were divided as follows: Nineteen seven-passenger touring; 12 broughams, 11 victorias, nine limousines, nine sub-urbans, six phaetons, three roadsters, one town limousine. The figures indicate the trend to closed cars, for 48 of the sales were of that type. The total value of the sales was \$298,000.

On top of that the company sold 35 used cars, valued at \$61,000, making a total for the week of 105 machines, worth \$359,000. There is a sales contest on between the men of the Boston Cadillac company and the agency in Philadelphia as to the total sales for this season, and the men have wagers up aggregating \$5,000. At present the Boston men claim to be leading, and with the impetus of the show they feel now that they can make more bets and give odds.

## IOWA DEALERS FORM STATE ASSOCIATION

### Leaders from Fifteen Cities Meet in Des Moines and Lay Plans for State Development

DES MOINES, April 12—More than forty automotive dealers, representing fifteen of the largest towns in Iowa, met at the Chamber of Commerce last week for the purpose of organizing the Iowa Motor Trades Bureau. There are approximately 7470 automotive dealers in the state, and over 325,000 automobiles.

Of the fifteen towns represented at the meetings mentioned, thirteen of them already have local organizations. These towns are Cedar Rapids, Creston, Clinton, Dubuque, Davenport, Des Moines, Ft. Dodge, Carroll, Marshalltown, Oskaloosa, Sioux City, Waterloo and Muscatine. Each of these towns which has a local organization and joins the state bureau as such is entitled to a director on the bureau board. Directors from all the above towns are already named with the exception of one.

The following officers were elected to serve for the first year: President, John Rude, Marshalltown; vice-president, John Hanson, Waterloo; treasurer, R. J. Clemens, Des Moines. Don T. Chamberlain was appointed temporary secretary until a permanent salaried secretary could be chosen.

The board of directors follows:

L. A. Walsh	Dubuque
C. E. Alford	Davenport
James Brown	Creston
Geo. Darling	Marshalltown
O. O. Repass	Waterloo
Perry C. Rude	Cedar Rapids
W. B. Swaney	Carroll
R. W. Royer	Sioux City
W. D. Tremain	Ft. Dodge
E. G. Walton	Oskaloosa
C. O. Hart	Des Moines
A. A. Daehler	Clinton

#### Nelson Starts Tractor Production

SAGINAW, MICH., April 11—The Nelson Motor Truck Co., Saginaw, is just getting into production on a new 2-ton tractor. The tractor has a 108-in. wheelbase. All specifications are the same as the regular Jumbo truck. The tractor will be marketed in connection with 3 to 5 and 5 to 7-ton semi-trailers as a six-wheel unit for heavy duty work. This company also proposes to bring out a new 3½-ton truck in about 90 days. The new truck will have a T-V Buda engine, Clark axles, four-speed transmission, unit power plant with drive torque rods and a pressed steel frame. The manufacture of the regular 2-ton model will be continued.

#### Maxwell Completes Last Tractor

DETROIT, April 12—The last military tractor was completed by the Maxwell Motor Co. Saturday, and the company is getting back into full peace production of automobiles. This company has already run its passenger car production up to 220 daily.



# Trucks

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## MERCHANDISING SPECIFICATIONS

**THE** tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

**The tables will be corrected and revised down to date every week.**

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.



# Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity
Acme	12-24	6,000	6,000	W	4	Beaver	44366	4 1/2 x 6	G or K	3	Elgin	12-25	3,300	\$1385	W	4	Erd	44366	4 1/2 x 6	G or D	2-3
Allis-Chalmers	6-12	2,100	8-12	W	4	Ow	43147	3 1/2 x 5	G or K	2-3	Fageol	8-12	3,300	1500	W	4	Overland	43147	3 1/2 x 5	G or D	2
Allis-Chalmers	10-18	4,800	10-20	W	4	Ow	43147	3 1/2 x 5	G or K	2-3	Farmer Boy	10-20	3,600	1350	W	4	Waukesha	43147	3 1/2 x 5	G or D	2
Allis-Chalmers	18-30	5,300	10-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farm Horse	10-20	4,800	1485	W	4	Climax	44366	4 1/2 x 6	G or K	3-4
Allwork	14-28	4,400	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Buda	44366	4 1/2 x 6	G or K	3-4
American	12-20	4,975	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Andrews	12-20	5,000	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Appleton	12-20	4,900	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Atlas	16-26	5,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Aultman-Taylor	12-20	7,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Aultman-Taylor	22-45	12,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Aultman-Taylor	30-60	23,000	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Austin	5-10	750	12-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Austin	12-20	3,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Austin	20-40	4,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Austin	75-125	25,000	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Auto Tiller	8-16	850	12-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery B.	5-10	2,600	12-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery Cultiv.	6-10	3,050	12-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	8-16	4,900	12-20	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	12-25	7,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	14-28	6,800	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	18-36	9,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	25-50	12,500	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Avery	40-80	22,000	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Bates All-Steel	15-25	4,000	15-25	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Bates Steel Mule	15-22	4,500	15-22	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Bean Track Pul	6-10	3,100	12-24	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Beeman	11-14	285	12-24	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Beltrill	12-20	4,500	12-24	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Blumberg	12-24	3,500	12-24	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Boring	15-30	6,900	15-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Boss	15-30	7,600	15-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Boss	20-40	7,600	15-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Brillion	12-22	4,900	15-22	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Buckeye	16-30	21,000	15-22	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Buckeye	24-35	25,000	15-22	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Bull	12-24	5,000	12-24	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Capital	15-36	4,000	15-36	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Capital	20-50	6,000	15-36	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Case	10-18	2,500	10-18	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Case	10-30	3,500	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Case	16-37	5,700	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Case	20-40	8,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Chas.	10-18	3,300	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Chas.	12-30	3,300	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
C.O.D.	12-35	3,500	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Coleman	18-30	4,205	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Common-Sense	20-40	6,500	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Craig	15-25	4,500	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Creeping Grip	15-25	7,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Creeping Grip	15-27	7,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Dakota	15-37	3,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Dart Blue J	18-20	4,500	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Denning	9-16	3,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Denning	12-22	4,200	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Dill	20	4,400	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Do It All	2-6	1,835	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Eagle	16-30	7,100	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Eagle	18-20	8,800	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
Eagle	9-16	4,350	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
E-B	12-20	4,250	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
E-B	20-35	9,700	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4
E-B	40-65	23,000	10-30	W	4	Ow	44366	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000	1600	W	4	Ow	44366	4 1/2 x 6	G or K	3-4

ABBREVIATIONS:—"W" Wbe "C" Cwiler "Dr" Drum, "G" Gasoline "K" Kerosene "D" Distillate. Flow capacity varies in relation to operating conditions. Figures are based on 14 in. plow.



Model	Motor	Ignition	WB	Tires	Rims	2-		5-		Sedan
						Pass.	Pam.	Pass.	Pam.	
ALLEN Series 41	4-31x5	Coan	A-Lite	112	32x4	SS	...	\$1108	...	\$1065
AMERICAN B	6-31x5	A-Kent	Went	122	32x4	SS	...	\$1225	1765	\$1865
AMERICAN C	6-31x5	G&D	G&D	121	32x4	SS	...	...	...	...
ANDERSON	6-31x4	Coan	Wells	120	32x4	SS	...	1775	...	...
400-A-E	8-31x5	Remy	Bijur	120	32x4	SS	...	4000	4000	9000
APPROX	8-31x5	Remy	Bijur	120	32x4	SS	...	...	...	...
8-30	8-31x5	Remy	Bijur	120	32x4	SS	...	...	...	...
ANNIVERSARY	8-31x5	Remy	Bijur	120	32x4	SS	...	...	...	...
AUBURN	8-31x5	Remy	Bijur	120	32x4	SS	...	...	...	...
6-30-B-E	8-31x5	Remy	Bijur	120	32x4	SS	...	11505	1505	...
BELL	4-31x4	A-Kent	Dynato	114	31x4	QD	...	1145	...	...
BIDDLE	4-31x4	Esman	G & D	121	32x4	QD	...	17750	7000	4400
BISCOE	4-31x4	Coan	A-Lite	104	30x4	C	...	955	885	...
BUICK	6-31x4	Coan	A-Lite	118	32x4	SS	...	1405	1405	2185
H-44-47	6-31x4	De co	De co	124	34x4	SS	...	...	1785	2555
H-44-50	6-31x4	De co	De co	124	34x4	SS	...	...	...	...
CADILLAC	8-31x5	De co	De co	125	32x5	SS	...	2220	13220	2290
57	8-31x5	De co	De co	125	32x5	SS	...	...	...	4340
CAGE	6-31x4	Wells	Wells	125	32x4	SS	...	12100	...	2100
CHALMERS	6-31x4	Remy	A-Lite	117	32x4	SS	...	1565	1565	2250
6-30	6-31x4	Remy	A-Lite	117	32x4	SS	...	...	1615	...
CHANDLER	6-31x5	Booth	Wells	122	34x4	SS	...	17750	...	1795
CHEVROLET	4-31x4	Remy	A-Lite	102	30x4	C	...	715	725	1185
570	4-31x4	Remy	A-Lite	110	32x4	SS	...	1110	1135	1655
575	4-31x4	Remy	A-Lite	110	32x4	SS	...	1110	1135	1655
COLE	8-31x4	De co	De co	127	32x5	SS	...	2595	12595	2595
67	8-31x4	De co	De co	127	32x5	SS	...	...	...	3995
COLUMBIA	6-31x4	A-Kent	W Lord	115	32x4	SS	...	1745	1600	2445
CORVETTE	8-31x5	De co	Dynato	125	32x4	SS	...	...	1685	...
COMET	4-31x4	Coan	Dynato	115	32x4	SS	...	1005	1005	1445
CLAY	4-31x4	Coan	Dynato	115	32x4	SS	...	1265	1265	1355
CROW-ELKHART	4-31x4	Coan	Dynato	115	32x4	SS	...	...	...	...
CR-34	4-31x4	Coan	Dynato	115	32x4	SS	...	...	...	...
CR-34	4-31x4	Coan	Dynato	115	32x4	SS	...	...	...	...
CUNNINGHAM	4-31x5	De co	Wells	122	32x5	SS	...	14250	4750	4250
V-2	4-31x5	De co	Wells	122	32x5	SS	...	...	...	...
DANIELS	8-31x5	Wells	Wells	127	34x4	QDR	...	3750	3750	5500
DADVIS	4-31x4	De co	De co	119	32x4	SS	...	11595	1595	...
H-7	6-31x4	De co	De co	124	34x4	QD	...	...	2050	...
J-7	6-31x4	De co	De co	124	34x4	QD	...	...	...	...
DISPATCH	4-31x5	Booth	USL	120	34x4	SS	...	11250	11200	...
DIXIE FLYER	4-31x5	Coan	Dynato	112	32x4	SS	...	1065	1065	1450
L-35	4-31x5	Coan	Dynato	112	32x4	SS	...	...	...	...
DODGE BROTHERS	6-31x4	Ovn	N.E.	114	32x4	SS	...	1065	1065	1750
6-30	6-31x4	Ovn	Wals	122	32x5	SS	...	...	3750	4615
DOONT	6-4 x5	Booth	Wells	122	32x5	SS	...	...	...	...
ELCAR	4-31x5	Coan	Wells	1064	30x4	QD	...	1025	925	1355
ELCAR	4-31x5	Coan	Wells	1064	30x4	QD	...	1025	925	1355
D.F.	4-31x5	A-Kent	Dynato	116	32x4	SS	...	1175	1175	1725
6-31x4	6-31x4	A-Kent	Dynato	116	32x4	SS	...	...	1375	1895
ELGIN	8-31x4	Wagner	Wagner	118	32x4	SS	...	1305	...	1950
ESSEX	4-31x5	De co	De co	106	32x4	...	...	1205	...	...
FORD	4-31x4	Ovn	...	100	30x4	C	...	500	525	775

ABBREVIATIONS—"A Kent," Atwater Kent, "Q & D" Gray & Davis, "Esman" Essemann, "I-N" Leeco-Nertilla, "N.E." North-East, "W. Land." Ward Leonard "SS" Straight Side. Detachable, "C" Clincher, "QDR" Quick Detachable Reversible. NOTE—3023jr means that the rear tires are 3023 and the front are smaller. "QD" Quick



## Want Maker to Absorb Tax

**BIRMINGHAM, April 12**—The following resolution was adopted by the Southern Automotive Equipment Jobbers' Association at a meeting on March 22:

Whereas, The tax on automobile accessories, tires, tubes and parts, which became effective Feb. 25, 1919, is paid to the Government by the manufacturer, importer or producer, and,

Whereas, The jobber, distributor or dealer is not in position to pass this tax on economically as a tax, and,

Whereas, The apparent intention of the Government is to collect this tax with the least disturbance to the trade and friction in the minds of the ultimate consumers, and,

Whereas, Considerable confusion is being caused because of the various methods used by manufacturers in passing on this tax, and,

Whereas, The Southern Automotive Equipment Jobbers' Association believes that a uniform method of applying this tax is desirable,

Be it resolved, by the Southern Automotive Equipment Jobbers' Association in meeting assembled at the Tutwiler Hotel in Birmingham, Ala., on March 22, 1919, that all manufacturers, importers or producers of automobile accessories, tires, tubes and parts absorb this Federal Excise Tax, making returns direct to the Government and, if necessary, provide selling schedules to enable the jobbers and dealers to resell goods without mentioning the tax.

## Montreal Association Appoints Secretary

**MONTREAL, CANADA, April 12**—The directors of the Montreal Automobile Trade Association have appointed Adolphe Levisque active secretary and manager. His headquarters will be at Windsor Hotel. The association plans to extend its scope and will shortly form two additional sections to include dealers in accessories and supplies and proprietors of repairshops and garages.

## Machinists to Vote on 44-Hour Week

**COLUMBUS, April 10**—Delegates to the convention of the Ohio Federation of Machinists have before them for consideration resolutions indorsing a 44-hour week and, if necessary, a 32-hour week, to give employment to the 25,000 machinists said to be out of work because of the cancellation of government contracts.

## A Star for Every Re-employed Soldier

**TORONTO, April 12**—The Ontario Motor Car Co., 18 to 22 Bloor Street East, Packard distributor for Ontario, has established a distinct innovation, so far as this district is concerned, in a post-bellum service flag of large dimensions and in national colors hanging conspicuously in one of its front windows. On it appears the number 17, which indicates that the firm has to date taken on its staff 17 returned soldiers, thus doing its bit in repatriation and re-assimilation in a business way for demobilized soldiers.

# COMING EVENTS

## Passenger Car and Truck Shows

Waynesburg, Pa.....	Apr. 16-19	.....	Automobile Dealers' Assn. of Greene Co., Armory Frank L. Hoover, Manager.
Bristol, Va.-Tenn.....	May 10-17	.....	Cars, Trucks, Tractors, Airplanes and accessories. Bristol Chamber of Commerce. C. W. Roberts, Manager.

## Foreign Shows

Paris, France.....	Oct. 15	.....	Grand Palais—International Automobile Manufacturers' Congress.
London, England.....	November	.....	Olympia—International Automobile Manufacturers' Congress.

## Meetings

St. Louis, Mo.....	Apr. 28-May 1	.....	Convention, Chamber of Commerce of United States
Washington, D. C.....	May	.....	Pan-American Commercial Conference, Pan-American Union Bldg.
Chicago, Ill.....	June 2-3	.....	Convention, National Gas Engine Assn.
Hot Springs, Va.....	June 2-6	.....	Convention, Automotive Equipment Assn., Homestead Hotel.
Philadelphia, Pa.....	Sept. 22-25	.....	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

## Exhibits

Venezuela, S. A.....	May 15-June 1	.....	National Exhibit of Venezuela.
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## Races

San Bernardino, Cal.....	Apr. 24	.....	Rim of the World Hill Climb.
Uniontown, Pa.....	May 17	.....	Probably 112½ miles.
Indianapolis, Ind.....	May 31	.....	500-Mile Sweepstakes, Indianapolis Speedway.
*Sheepshead Bay, N. Y.....	June 14	.....	Speedway.
Cincinnati, O.....	July 5	.....	Speedway.
Uniontown, Pa.....	July 19	.....	Mid-Summer Meet, Speedway.
Sheepshead Bay, N. Y.....	July 26	.....	Speedway.
*Middletown, N. Y.....	Aug. 15	.....	Dirt track event.
Elgin, Ill.....	Aug. 22-23	.....	Road race.
Sheepshead Bay, N. Y.....	Aug. 23	.....	Speedway.
Uniontown, Pa.....	Sept. 1	.....	Speedway.
Sheepshead Bay, N. Y.....	Sept. 20	.....	Speedway.
*Allentown, Pa.....	Sept. 27	.....	Dirt track event.
Cincinnati, O.....	Oct. 1	.....	Speedway.
*Trenton, N. J.....	Oct. 4	.....	Dirt track event.
*Danbury, Conn.....	Oct. 11	.....	Dirt track event.
*Tentative dates.			

## Tractor Demonstrations

Walla Walla, Wash.....	Apr. 23-25	.....	Sectional Tractor Demonstrations.
Fresno, Cal.....	Apr. 29-May 1-4	.....	Central California Tractor and Implement Assn.
Sacramento, Cal.....	May 5	.....	Sectional Tractor Demonstrations, Demonstration Field.
Denver, Col.....	Early June	.....	Sectional Tractor Demonstrations.
Wichita, Kan.....	Early in July	.....	Automotive Committee of National Implement Assn.
Aberdeen, S. D.....	Early August	.....	Sectional Tractor Demonstrations.

## Aeronautical Exhibition

Atlantic City, N. J.....	May 1-June 1	.....	Second Pan-American Aeronautic Convention and Exhibition.
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## Club Rooms for Automobile Dealers

**NEW YORK, April 7**—The Automobile Dealers' Association has leased two floors at 1845 Broadway for offices, restaurant, pool, billiard and meeting rooms. Plans are on foot to decorate and equip the rooms suitably.

## Here's the Flivver Street Car

**DETROIT, April 10**—Henry Ford and the engineers of his tractor organization are working on plans for a street car driven by an internal combustion engine. A machine is under construction and will be demonstrated on the streets of Detroit this summer.

## Trade Visitor from New Zealand

**NEW YORK, April 10**—E. S. Pees, proprietor of the Nonpareil Motor Co., Palmerston, New Zealand, is visiting this country en route to England with a view to increasing his already large trade relationship with American manufacturers of motors and sundries. Pees' address

while in America will be care of Messrs. Kemsley, Millbourn & Co., 50 Pine Street, New York.

## Ford Considers D. C. Site

**WASHINGTON, April 10**—Henry Ford & Son will give "due consideration" to Washington when they decide to build another factory, according to a letter received here by the Chamber of Commerce from E. G. Liebold, secretary to Henry Ford. The letter was in response to a request by the Washington Chamber of Commerce urging Mr. Ford to locate his next plant here.

## Continental Engines Handled by Beckley-Ralston

**CHICAGO, April 10**—Retail sales of single engines and spare parts for Continental engines for replacement in cars and trucks will be handled in this territory by the Beckley-Ralston Co. The company expects to establish several repair depots in the city.



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 4

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, APRIL 23, 1919

Fifteen cents a copy  
Two dollars a year

## Grow With Hudson

### A Few More Opportunities Are Now Open to Good Dealers

Demand for the Hudson Super-Six has long exceeded production. Its sales are the largest among all fine cars.

Hudson dealers are prosperous. Their business in January exceeded that of any previous January.

Every year has added to Hudson Super-Six popularity. This year confronts us with a still greater demand. There is a shortage of Hudsons right now that stimulates the demand. So we are preparing to meet the situation by increased factory facilities.

New opportunities are available in a few sections for dealers who meet Hudson standards. Hudson dealers are leaders everywhere. They have the finest stores. They typify the highest standards of automobile merchandising. Sharing in Hudson prosperity has helped them.

There are already 60,000 owners who give the Super-Six their enthusiastic support. What other fine car offers so much? Get in touch with us now. There may be an opportunity for you to prosper with Hudson.



**Hudson Motor Car Company**

**Detroit, Michigan**





## Nation-Wide Demand Reflects Nash Performance

**T**HE heavy and nation-wide demand for the Nash Six with Perfected Valve-in-Head Motor and the powerful Nash trucks but indicates the high quality of their performance in owner use.

Dealers now holding these selling franchises are enjoying the profits of a volume business, which this Nash reputation for sound value has created.

### *Nash Passenger Cars*

*Five-Passenger Touring Car, \$1490*  
*Two-Passenger Roadster, \$1490      Four-Passenger Sport Model, \$1595*  
*Seven-Passenger Car, \$1640      Seven-Passenger Sedan, \$2575*  
*Four-Passenger Coupe, \$2350*  
*f. o. b. Kenosha*

### *Nash Trucks*

*One-Ton Chassis, \$1650      Two-Ton Chassis, \$2175*  
*Nash Quad Chassis, \$3250*

**The Nash Motors Co., Kenosha, Wis.**

*Manufacturers of Passenger Cars and Trucks  
Including the Famous Nash Quad*

# NASH MOTORS

**VALUE CARS AT VOLUME PRICES**



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

239 West 39th St., New York City. 'Phone Bryant 8760  
PUBLISHED EVERY WEDNESDAY BY

## The Class Journal Co.

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## Editorial Contents

Why Prices Can't Drop .....	8
Southern Dealers Fighting Confiscation .....	12
The Reilly Story .....	14
The Flat Rate Plan .....	15
The Law .....	20
Better Mechanics .....	21
Shooting Troubles .....	23
Repairshop Shortcuts .....	24
Editorial Observation .....	26
Letters from Readers .....	27
Scientific Garage Construction .....	29
Retail News .....	31
Automotive Equipment .....	35
Regular News Department .....	36
Calendar .....	44
Specification Tables .....	45

Advertisers Index on Pages 128-129

# "NORMA" PRECISION BALL BEARINGS

(PATENTED)



Conservation of resources, thrift in matters of saving and spending, are still of prime importance to the nation's welfare. To save wherever possible, to spend only where necessary and, above all, to spend wisely—these are still obligations of good citizenship. Be sure that what you spend buys the utmost in service.

Cars, trucks, tractors, power boats, are necessities—their purchase, when wisely made, is not an extravagance. And it is a fact which a little investigation will emphasize that the automotive units which today best exemplify the ideal of thrift are those carrying "NORMA" equipped magnetos and lighting generators.

*Be SURE—See That Your Electrical Apparatus is "NORMA" Equipped*

## THE NORMA COMPANY OF AMERICA

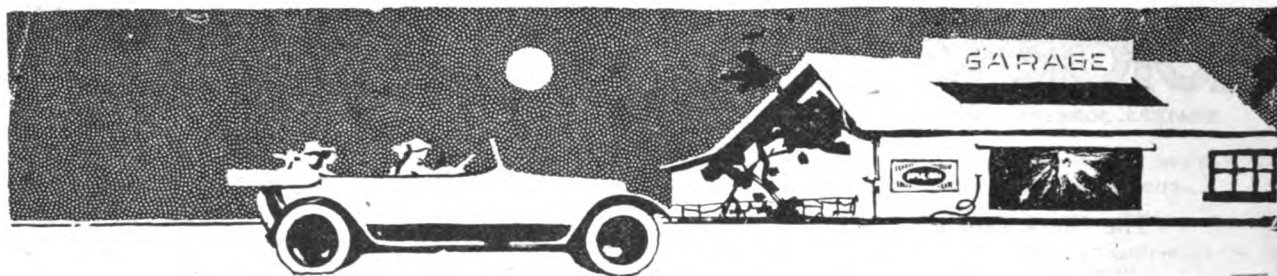
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NEW YORK

*Ball, Roller, Thrust and Combination Bearings*







# Conclusive Evidence of Superiority



The immense satisfaction expressed by the thousands of users of Brunner Garage Air Compressors confirms the principles of design built into each unit and leaves no opportunity for basic revisions.

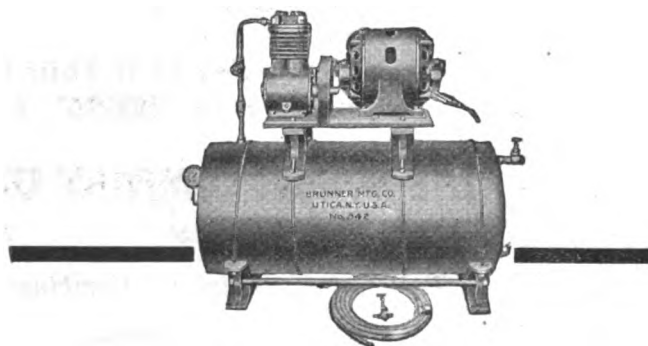
**The sign of dependable service**

Among the thousands of Brunner compressors now in use there are many of the first ones ever made in the Brunner plant. They are still giving satisfactory service.

Having embodied the fundamental laws of mechanics, the scientific principles of pneumatics, then carefully choosing materials and applying rigid tests to all operations, there could be but one result—a product as nearly perfect as humanly possible to make it.

The garageman who is careful to get 100 cents' worth of value for every dollar he spends will always choose a Brunner Garage Air Compressor.

**Write for booklet. Give us the name of your jobber.**



## Brunner Manufacturing Company

Cincinnati Branch, Cincinnati, Ohio  
Main Office and Plant, Utica, N. Y.



*"Life's battles don't always go  
To the stronger or faster man,  
But soon or late the man who wins  
Is the fellow who thinks he can."*

---

We are launched in the sea of summer merchandising.  
Sails are set—the wind blows fair.

You are at the wheel. Much depends on you—YOU  
who are steering the ship.

Do you know the science of business navigation?  
Do you know the course, and the currents that will  
help or hinder?

If you do not feel that you are a master business mariner  
you are handicapped at the start, and you must  
overcome that handicap by study.

None of us is too old to study. None is so fortified  
with wisdom that he should not study.

You cannot personally visit and study the success-  
building methods of thousands of men in the trade  
who are working along the same lines that you are.  
But you can get the benefit that would accrue from  
such research if you will study Motor World every  
week, because Motor World is published to help you  
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The more nearly you attain the goal of 100 per cent  
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**Quality**



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, April 23, 1919

No. 4



*Surely You  
Won't Refuse  
to Pay for It  
Now That It  
Has Been  
Delivered*

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# Why Prices Can't Drop

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*They Can't Fall Very Far for a Long Time and This Story Tells Why—The Story Is a Paper Read Before the Editorial Conference of the New York Business Papers Association, at a Meeting in New York April 11, by O. P. Austin, Statistician of the National City Bank, New York. Austin Has Studied Money and Economics for Years. He Is One of Our Best Authorities. His Story Is of Itself an Education for All Those Who Have Wondered Why Prices Are High and Whether They Can Fall*

---

By O. P. AUSTIN

Statistician of the National City Bank, New York

THE chief causes of the world advance in prices appear to be, in the opinion of the speaker, (1) the inflation of world currency, coupled with (2) the "scarcity demand" and the consequent (3) advance in labor costs. *The prospect of material reductions in the near future would depend upon the possibility of the removal or modification of the chief causes of the advance.*

Stated chronologically the chief causes of the advance seem to have been, first, the "scarcity demand" for war materials, food, clothing, manufactures, manufacturing materials and the labor required for their prompt production, but this was quickly followed by an enormous world inflation, in which paper money with a face value of \$36,000,000,000 was emitted by the printing presses of the countries at war, and the legal tender circulating medium of the world was thus advanced from \$15,000,000,000 in 1913 to over \$45,000,000,000 in 1918, most of the gold formerly in circulation passing into the vaults of the governments and their great banks as a partial basis for this greatly enlarged paper currency.

The face value of the paper currency issued in the four years of the war was greater than the value of all the gold and all the silver

mined in all the world since the discovery of America.

Meantime, the national debts of the world have advanced from \$40,000,000,000 in 1913 to \$220,000,000,000 in 1919, and the annual interest charge from \$1,750,000,000 to \$10,500,000,000, and this quintupling of "governmental promises to pay" had also an important bearing upon the world finances, while the fact that bank deposits in the fifteen principal countries of the world grew from about \$25,000,000,000 in 1913 to approximately \$75,000,000,000 in 1919, still further increased the currency sup-

ply, especially in countries like the United States, in which the check plays so important a part in current business transactions.

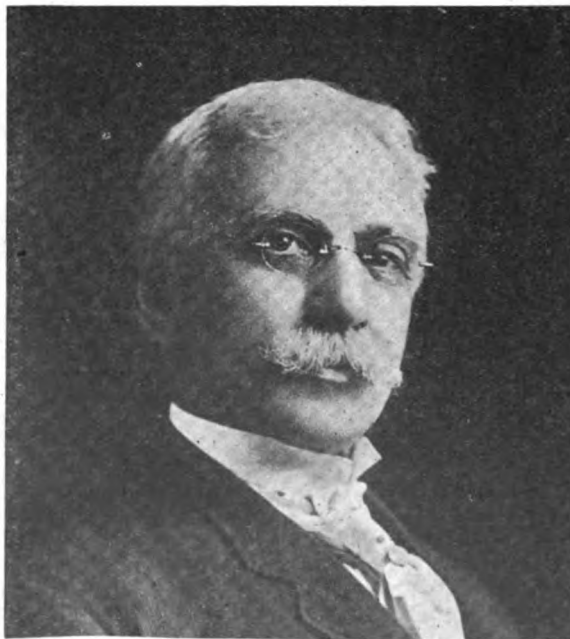
## How the Boom Started

This enormous inflation thus brought about, coupled with the continued "scarcity demand" for food, manufactures, manufacturing material, and labor required for their production, was accompanied by great advances in prices, FIRST IN THE MATERIALS FOR THE WAR, THE ADVANCES GRADUALLY EXTENDING TO OTHER ARTICLES WHICH THEIR RESPECTIVE PRODUCERS MUST EXCHANGE FOR THOSE IN WHICH THE ADVANCE HAD ALREADY OCCURRED, AND THIS MADE THE ADVANCE IN PRICES WORLD-WIDE, AND APPLYING TO ALL CLASSES OF ARTICLES IRRESPECTIVE OF THEIR IMMEDIATE RELATION TO THE REQUIREMENTS OF THE WAR.

The chief question involved in a consideration of the future of prices is whether there is a prospect of an early removal of the causes of the advance.

## "Scarcity Demand" Still With Us.

*The "scarcity demand" still continues in everything except war supplies and even in that line is not entirely ended, since there are about 15,000,000 men still under arms. The demand for food is as*



OSCAR P. AUSTIN



*insistent as ever*, owing to the disordered state of the population of Central Europe and the impoverished condition of the neglected soils of all that continent, while the factories and empty shelves of all the world are clamoring for new supplies which ran low during the war period.

As to a material reduction of the inflated currency, the prospects for the near future do not seem encouraging in view of the fact that the 1919-20 "budgets" of the principal countries of the world, now being made up, call for fully four times as much money as those of the year preceding the war, suggesting that the governmental demands in the first peace year after the war will be about \$60,000,000,000, as against about \$12,000,000,000 in 1913, and that the governments which must quadruple their demands upon their taxpayers and prepare for a reduction of their debts will hesitate about reducing the amount of money in circulation.

WHILE THERE MAY BE A SLIGHT DOWNWARD TREND IN THE GENERAL PRICE LEVEL AND DISTINCT REDUCTIONS IN CERTAIN ARTICLES, THE DIFFICULTY IN REMOVING THE CHIEF CAUSES OF THE ADVANCE SUGGESTS THAT THE GENERAL REDUCTION IN PRICES IN THE NEAR FUTURE MAY NOT BE AS RAPID AS HAD BEEN ANTICIPATED.

### Food Higher Than Ever

The purpose of this address is an attempt to look into the future and determine, if possible, the probability as to the course of prices. That there have been great and continuous advances during the war period we are painfully conscious, and in the five months since the cessation of hostilities we have failed to experience the reduction which some had fondly hoped would come with the close of the war.

In a few instances there have been slight reductions but in others there are still advances, and the index figures on foodstuffs in New York to-day are actually higher than those on November 5, when the whole world so joyously welcomed the apparent termination of the great conflict which had raged for fifty-one months.

### Causes of the Advance

To attempt to determine what is likely to happen in the future we must try to find the cause of the things which have happened in the past, and also to see whether this cause is or is not likely to continue in the near future.

When prices began to advance in the opening of the war, we could readily see that the upward movement was due to the urgent demand for the food and raw material required by the enormous armies which had been put into the field,

and this cause has been designated the "Scarcity Demand," but when we found the advance extending to many articles in which there was no scarcity and which were not used by the armies or utilized in the manufacture of their requirements, we began to realize that a part of the advance must be due to some cause other than war or scarcity demands.

Edgar Crammond, the distinguished British statistician and economist, in an address before the London Institute of Bankers on March 26, 1919, stated that the three facts which would tend to make the fall in prices a very gradual one are:

### Why Prices Are High

The greatest reason, according to Austin, is the money inflation. That means that there is what might be called an overproduction of money. There is more money, such as cash, bonds and credit, in the world than ever before, and, just as a big supply of anything makes things cheap, money is cheap. By "cheap money" is meant that it takes more money to get merchandise. It takes just about as many bushels of wheat to get a suit of clothes, but both are worth more money. Their relative values are not changed. Prices can't fall materially while this condition lasts, and it may last for years.

1—THE VAST INCREASE IN THE AMOUNT OF PAPER MONEY.

2—THE HUGE INCREASE IN THE AMOUNTS OF PUBLIC DEBTS OF THE BELLIGERENTS.

3—THE DETERMINATION OF LABOR TO MAINTAIN WAGES AND IMPROVE THE STANDARD OF LIVING.

### Advances Were World-Wide

Raw silk, for example, for which the war made no special demand and which was produced on the side of the globe opposite that in which the hostilities were occurring advanced from \$3 per pound in the country of production in 1913 to \$4.50 per pound in 1917, and over \$6 per pound in the closing months of the war.

Manila hemp, also produced on the opposite side of the globe, and not a war requirement, advanced in the country of production from \$180 per ton in 1915 to \$437 per ton in 1918.

Mechanically ground wood pulp, not a war requirement, advanced as our publishers are aware, from \$14 per ton in the opening months of the war to \$35 per ton in the opening months of 1916, and the grade known as "chemical bleached" advanced from \$50 per ton at the beginning of the war to \$160 per ton in January, 1919.

Goatskins, from China, India, Mexico and South America, advanced from 25 cents per pound in 1914 to over 50 cents per pound in 1918, and yet goatskins

were in no sense a special requirement of the war.

Pig tin, produced by Chinese labor in the Malayan Peninsula and the Dutch East Indies, and not to a very great extent a war requirement, sold in the country of production in 1914 at 30 cents per pound and in the same markets at 75 cents in the closing weeks of the war.

Sisal grass, produced in Yucatan, advanced from \$100 per ton in 1914 at the place of production to nearly \$400 per ton in 1918, and Egyptian cotton, a high-priced product and thus not used for war purposes, jumped from 14 cents per pound in Egypt in 1914 to 35 cents per pound in 1918.

Even the product of the diamond mines of South Africa advanced from 60 to 100 per cent in price per karat when compared with prices existing in the opening months of the war.

The prices which I have quoted to you are in all cases those in the markets of the country in which the articles were produced and in most cases at points on the globe far distant from that in which the war was being waged. They are the product of countries having a plentiful supply of cheap labor and upon which there has been no demand for men for service in the war. The advance in the prices quoted is in no sense due to the high cost of ocean transportation since they are those demanded and obtained in the markets of the country of production.

Why is it that the product of the labor of women and children who care for silk worms in China and Japan, of the Filipino laborer who produces the Manila hemp, the Egyptian fellah who grows the high grade cotton, the native workman in the diamond mines of South Africa, the Mexican peon in the sisal field of Yucatan, the Chinese coolies in the tin mines of Malaya, or the goat herd on the plains of China, India, Mexico or South America has doubled in price during the war period?

The articles enumerated were in no case for use in the war and the prices are those in the country of production, and thus not due to the increase in ocean freights or dangers of oversea transportation. The advance has been general—world-wide.

In a few articles in which an overproduction was occurring, in which the demand fell below normal, the advance was not so strongly marked, but there is scarcely an article in the long list of those entering world markets in which there has not been an advance, no matter how distant its place of production from that in which the war was occurring or how little the war's demands for it or for the labor by which it was produced.

### Great Underlying Causes

Surely there must have been some general underlying causes for this world advance, this simultaneous demand by people of all classes and in all parts of



the globe for higher prices for their products irrespective of their relation to war requirements.

While we may be willing to accept the immediate demands of the war as a partial explanation of the advance in the prices of foodstuffs and certain manufacturing material and manufactures we must look farther for the cause of the similar advance in articles upon which the demands of the war could have had no direct bearing.

It is true that a marked advance in the price of one important class of products does cause an advance in the prices demanded for other articles which must be exchanged for those in which the advance has already occurred, but it does not seem probable that the advance due to scarcity of a comparatively few of the world products required for war could have been the chief cause of the doubling of prices in practically every article produced in every part of the world, many of which had not the most remote relation to war requirements.

Apparently the principal causes of the advance in prices during the war were, stated in their chronological order:

First—"Scarcity demand."

Second—The advance in wages, presumably due to the increased cost of living and demand for labor.

Third—The large increase in world circulating media, or, to put it in a single word, "inflation."

Professor A. C. Miller, member of the Federal Reserve Board, an authority whose views are entitled to high consideration, in a recent address before the American Academy of Political and Social Science, named as the two chief causes of the advance in prices, "scarcity demand" and "inflation," adding that "there is so much evidence of an artificial abundance of money in comparison with the things that are purchasable by it that the abundance of money must be credited WITH AT LEAST an equal influence in explaining the high prices which have prevailed."

### The "Scarcity Demand"

What were the articles for which the war created a scarcity demand? Food, clothing, transportation facilities, and material for the battlefield.

How much did it add to the world's demand for these articles? Of course, the percentage of increase in demand for strictly war materials was very large, but was there really as great an increase in demand for other materials, food, clothing and transportation facilities as we are accustomed to imagine?

Let us assume that the number of people participating in the war was forty million, which is probably more than those in the field at any one time. Do we realize how small a share those forty million were of the world's consuming population? Less than 2½ per cent.

We think of forty million as a large number of people to feed, and so it is, but it must be remembered that the num-

ber of people in the world who must be fed and clothed and supplied with transportation facilities every day of the year is 1,800,000,000, or *forty-five times as many as the highest number in the military service at any time during the war.*

Of course the soldiers were better fed than are many of the people in certain sections of the world, but even if their per capita consumption was four times as much as the average it would still represent but a small percentage of the world's daily food consumption.

### In Your Advertising

Take from This Story Certain Extracts and Use Them from Time to Time in Your Advertising. Don't Make the Keynote of ALL Your Advertising the Price Situation, but Slip These Little Paragraphs in at an Upper or Lower Corner Quite Often as a Side-light in Your Ads.

And it must be further remembered that all these forty million people in the armies had been consumers of food before the beginning of the war, not to quite as great an extent perhaps as after entering the activities of the military service, but it cannot be assumed that the war added forty millions to the world's consumers of food and clothing. Nor can it be properly assumed that the withdrawal of these millions from the industries actually reduced to that extent the world's producing power, for four millions of these were already in the military service and the places of the other thirty-six million were to a considerable degree filled by others who had not been up to that time actively engaged as producers.

Much of the material used in preparing the supplies for the battlefield was "switched" from the usual lines of industry, for there was an immediate cessation of railway construction, building operation, and a thousand industries which formerly required manufacturing material, and as a result of this cessation of activities the material formerly used by them became available for war purposes.

It thus appears on close analysis that the "scarcity demand" created by the war was not as great in food, clothing or manufacturing materials as has been pictured, while the fact that fifteen millions are still under arms minimizes the reduction in military demands which had been expected.

### High Cost of Labor

One factor often mentioned in the attempt to determine the causes of high prices is the advance in wages of labor, but the fact that the increase in compensation of labor was in most cases given because of the fact that the cost of living had already advanced at least somewhat minimizes the relative importance

of this factor in attempting to discover the real causes of the general worldwide advance in prices. And it must also be remembered that several million persons who had not been engaged in the industrial and business world came to the assistance of those engaged in these duties during the war.

Where, then, shall we turn in the search for the principal cause of the general advance in prices of articles produced the world over and their relation to the demands of the war.

What other cause can we find, after giving due consideration to the scarcity demand, the destruction by war and the increased cost of labor?

The most prominent among the possible or probable causes is the theory advanced or accepted by the historians, economists, statisticians and financiers of the world that INFLATION IN CURRENCY IS USUALLY ACCOMPANIED OR CLOSELY FOLLOWED BY AN ADVANCE IN PRICES; and, as already indicated,

so high an authority as a member of the present Federal Reserve Board, Professor A. C. Miller, has recently declared that "The abundance of money must be credited with at least an equal influence in explaining the high prices which have prevailed."

I wonder if we do fully realize the quantity of paper money which the responsible governments of the world have put afloat since the beginning of the world war?

Thirty-six billion dollars.

The paper money in existence in the fifteen principal countries of the world at the beginning of the war was less than eight billion dollars and at the end of the war was over forty-four billions, an increase of thirty-six billions in fifty-one months, and this does not include any of the eighty billion dollars worth of paper currency issued by the Bolsheviks in the eighteen months of their control in Russia.

Thirty-six billion dollars of new paper money added to the circulation of the world by fifteen responsible governments in a little over four years of time.

We had been inclined to charge up the advance in prices occurring prior to the war to the fact that eight billion dollars' worth of gold was turned out by the mines of the world in the twenty years following our famous gold and silver campaign of 1896. But here are thirty-six billion dollars worth of paper promises to pay turned out as legal tender money by fifteen responsible governments in a short four-year period.

Do we realize how vast a sum is this thirty-six billion dollars worth of paper currency which has thus been put into circulation in such a brief time?

IT IS MORE, IN ITS FACE VALUE, THAN ALL THE GOLD AND ALL THE SILVER TURNED OUT BY ALL THE MINES OF ALL THE WORLD IN THE 427 YEARS SINCE THE DISCOVERY OF AMERICA.

True, much of this paper money is now



more or less depreciated in its value as compared with gold, the world's accepted standard, but the fact that it has behind it not only a certain amount of the yellow metal but also the *pledge of the governments* by whose authority it was issued renders it at least an accepted medium of exchange in the countries of its origin, while the fact that nearly every neutral country of the world has meantime increased its paper currency and national indebtedness, permitting its gold to pass from circulation into the vaults of its banks as a security for the paper circulation, tends to widen the field affected by this inflated currency.

### Increase in Other Governmental Obligations

In addition to these vast sums of legal tender currency turned out by fifteen responsible governments of the world, these same governments have at the same time made an even more spectacular advance in their issue of another series of promises to pay, which, while not legal tender in the ordinary sense of the term, do form a more slowly moving mass of currency.

By this I mean the *one hundred and eighty billion dollars worth of bonds* or other forms of national obligations issued by the governments of the world in the past four years, for national debts of the world have advanced from *forty billion dollars* at the beginning of the war to *two hundred and twenty billions* at its close. And while these bonds or other governmental promises to pay money at some future date are not legal tender currency in the ordinary sense of the term they do pass current in the financial world and prove a basis upon which money may be readily obtained by their holders, and to this extent are an addition to the world's circulating medium.

### Bank Deposits Greatly Increased

Still another increase in circulating media is found in the *enormous growth in bank deposits*, which of itself increases circulation through the increased use of checks, *especially in countries such as the United States where the check forms so large a share of the daily business transactions of the country.*

Bank deposits in fifteen principal countries of the world have grown from *twenty-seven billion dollars* in 1913 to approximately *seventy-five billions* at the present time, the ratio of increase being about the same as that of currency.

These increases in circulation, indebtedness and bank deposits, while occurring chiefly in the countries participating in the war, have also extended to many other countries, especially in Europe, where *the six principal neutrals have during the war period increased their national debts one billion dollars, their note circulation over a billion dol-*

*lars and their bank deposits by about one billion.*

Thus in a short four and one-half year period world paper money has increased *thirty-six billion dollars*, world evidences of national indebtedness *one hundred and eighty billion dollars* and world bank deposits nearly *fifty billion dollars*.

Most of this enormous increase has occurred in "uncovered" paper. The gold mines of the world have turned out less than two billion dollars worth of the precious metal during the war period, and most of the world's gold, which

### What Is a Billion Dollars?

Said Statistician Austin: "I asked a man in the Government Treasury Department how fast his expert counters could count silver dollars, and then I figured that it would take one of these counters a month of 31 days to count a million dollars. I then figured how long it would take him to count a billion dollars, working eight hours a day, not counting Sundays and holidays, and I found it would take him **ONE HUNDRED AND TWO YEARS**. That's the difference between a million and a billion. We have been talking in billions, but I don't think we have any idea what we have been talking about."

Read Austin's Story on these pages and learn about Price and Money Conditions.

formed fifty-five per cent of world circulation at the beginning of the war, has passed in the vaults of the governments of their great banks as a basis for their paper currency, and now bears a relation of but about 20 per cent to the flood of paper money in circulation, and this proportion of gold to paper varies widely when the respective countries are compared.

### Inflation and High Prices

If the world's historians and financiers and economists and statisticians are right in their general belief that an advance in prices usually accompanies or closely follows inflation in currency, and especially in paper currency, CAN WE BE SURPRISED AT THE WORLD-WIDE ADVANCE IN PRICES WHICH WE HAVE WITNESSED DURING THE PAST FOUR YEARS IN WHICH WORLD CURRENCY AND BANK DEPOSITS TREBLED AND NATIONAL DEBTS QUINTUPLED?

### Prices of Tomorrow

We come now to the third and final question, that of prices of to-morrow. May we expect a material reduction in general prices in the near future? And in trying to determine this we must see whether the causes which brought about the advance during the war period are likely to be removed.

The chief causes of the advance seem to have been the "scarcity demand," the higher cost of labor, and the increase in circulating media.

The "scarcity demand" came on the very first day of the war, for most of the countries entering that struggle found that the demand upon them would be far in excess of their supplies either of foodstuffs or military requirements, and as the weeks and months and years progressed this fact was more strongly impressed upon them.

During the closing year of the war the ammunition factories of the various participating countries were able to meet to a great extent the requirements of their own armies, but in the matter of foodstuffs the "scarcity demand" still continues, with little prospect of abatement at least in the near future.

The number of mouths to feed in Europe has not decreased and that continent, which has not for many years been able to produce its own requirements of foodstuffs, now finds itself with *neglected soils, a disordered population and unable to return to normal production in the immediate future.*

In manufacturing materials, for which Europe has also been dependent upon other parts of the world, she will require abnormally large quantities at least in proportion to her attempts to manufacture, for *her stocks of this class of merchandise are absolutely exhausted.*

In all parts of the world which have relied upon Europe and the United States for manufactures *the shelves are empty and must be filled* and most of the manufacturing sections of Europe will evidently be slow in resuming the production of manufactures for exportation, and will have limited facilities for transporting or marketing them even if produced.

So it seems that, *although the demand for war material has terminated, the other features of the "scarcity demand" will continue at least in a somewhat modified form in the immediate future, especially as relates to world requirements of food, manufacturing material and manufactures, while developments thus far do not point to an early reduction in labor costs.*

### Will the Over-Supply of Currency Be Reduced?

IF WE ARE RIGHT IN ASSUMING THAT A CONSIDERABLE PROPORTION OF THE WORLD ADVANCE IN PRICES IS DUE TO THE ENORMOUS INCREASE IN WORLD CURRENCY, CAN WE EXPECT A MARKED REDUCTION IN PRICES UNTIL THE CAUSE, "INFLATION," IS REMOVED?

Or, to put it in another form, that part of the advance caused by inflation *can only be cured by deflation, by a reduction in the enormous stocks of currency, which, as I have shown you, has trebled during the war, while that other form of slowly moving currency, governmental obligations, has quintupled.*

(Continued on page 43)



# Southern Dealers Fighting Ruling That Confiscates Cars

*Federal Court Has Held That Car in Which Untaxed Moonshine Whiskey Is Carried May Be Confiscated, Regardless of Who Owns the Car—Dealer Who Sold Car on Time Payments Hard Hit, and Association Is Contesting Case in United States Courts*

THE South has a problem on its hands. The courts have held that in case a car is used to carry whiskey on which no tax has been paid the car may be confiscated. The organized dealers are making a hard fight. They want all Southern dealers to help them, and they warn dealers everywhere to watch out for similar situations in case the illicit distilling of whiskey becomes at all prevalent with the coming of prohibition. Dealers should maintain their organizations everywhere, make them stronger and prepare to prevent any such rulings as this. A similar situation has arisen in Kansas, where the dealers seem to be up against a bad situation.

uation written by one of our attorneys in the case.—JOHN E. SMITH, Chairman Legislative Committee, Atlanta Automobile Association.

## The Legal Explanation

IN December of last year the United States Circuit Court of Appeals for the Fifth Judicial Circuit handed down a decision which will vitally affect the business of every automobile dealer within the jurisdiction of that court, which includes the States of Georgia, Florida, Alabama, Mississippi, Louisiana and Texas.

Stripped of its legal verbiage, the decision of the court was that an automobile seized by the Federal authorities, and which contained whiskey upon which the tax had not been paid, would be forfeited to the Government, regardless of whether the true owner of the machine had anything to do with the deposit of the whiskey or the removal or concealment of the same.

*In other words, under this ruling, if a dealer sold a car on time payments to the purchaser and retained title to the car for the balance of the purchase money, and the purchaser or his agent or any one else used the car for the purpose of hauling whiskey, the dealer will not be heard in the Federal Court to set up his title to the property and his innocence of all wrongdoing in connection with the transportation of contraband whiskey.*

This case was carried to the Circuit Court of Appeals under peculiarly unfortunate circumstances so far as an innocent owner of such automobile is concerned. The courts have heretofore uniformly held that only the interest of the actual wrongdoer could be forfeited, and Federal Judge Newman made such a ruling in the present case, and the claimant won his case, it appearing that he had loaned his automobile for an entirely legal purpose and the man who borrowed the car used it, without his knowledge or consent, for hauling liquor. As, stated, the jury found for the claimant, and shortly afterward the attorney for the claimant received his commission in the United States Army and temporarily quit the practice of law. The District Attorney

JOHN E. SMITH, of the John M. Smith Co., Atlanta, and chairman of the Legislative Committee of the Atlanta Automobile Association, in a letter to Motor World states:

"Heretofore, before this decision was rendered, the local United States judge has always held that a recorded lien on an automobile came first, even though whiskey was found in the car, provided, of course, the holder of the lien was not in collusion in the matter.

"Last fall the United States District Attorney appealed one of the cases to the District Court of Appeals at New Orleans, and this court reversed the decision heretofore held good by the United States Court in Atlanta, and found that cars should be confiscated by the United States Government in cases where moonshine whiskey, or whiskey on which revenue tax had not been paid had been found in them, regardless of any lien that might be held by any one.

"You can readily understand the importance of having this decision repealed, if possible, as a great many cars are sold on time by dealers throughout the country, and contraband whiskey business is bound to increase as prohibition laws are tightened throughout the country. No dealer can tell when a car sold on time will be used for hauling whiskey, although it might be loaned to a friend.

"You ask what has been the effect on the trade and what the effect will be in case we are unable to beat the case. The present effect is that the dealers are going right ahead selling cars as usual on time, and, while there are a great number of cars that have been caught, the owners have given bond pending the decision on the appeal. In case the decision is sustained, it will naturally increase the risk taken by dealers selling cars on terms and it will naturally curtail sales business to some extent, but, in spite of any precautions that might be used, dealers will no doubt suffer losses from time to time.

## Claim It Is Unconstitutional

"Aside from the monetary losses involved in this case, our lawyers think that the decision as it now stands is a violation of the constitutional rights of an American citizen, and are attacking the decision on this ground as well as upon other points of law involved.

"We would be very glad, indeed, to see the Motor World take this matter up, as we think it is, indeed, a very important one not only to the Southern section, but to the whole United States. In case we fail to reverse this, it is our purpose to carry the matter through the United States Supreme Court.

I am enclosing a statement of the sit-



appealed the case to the Circuit Court of Appeals, and on the trial before that court the claimant's legal contentions were not presented to that court. There was no appearance in the cases except by the District Attorney representing the Government.

In spite of that situation, one of the judges of the Circuit Court of Appeals filed a strong dissenting opinion to the majority decision, and it is the belief of attorneys that he followed the true construction of the statute. Judge Batts, in the dissenting opinion, among other things said:

"To hold that Section 3450, U. S. R. S., subjects property designed for and used in transportation generally to forfeiture when used in carrying distilled spirits upon which the tax has not been paid, by one to whom it has been let for an innocent and proper purpose, the owner being without fault, is to ascribe to the legislative department an indifference to fundamental constitutional principles not warranted so long as another construction is possible."

#### Atlanta Association Fighting Law

As soon as the majority decision was published some live wires of the Atlanta Automobile Association held a conference and determined that a test case should be made of the question and the matter should again go before the Circuit Court of Appeals when the other side would be properly represented by counsel and an effort would be made to have that court review and reverse its decision, or, failing in that, that the case should proceed to the Supreme Court of the United States for a final and, if possible, a favorable ruling. To that end they employed the law firms of C. T., L. C. and J. L. Hopkins; Dorsey, Shelton & Dorsey; and Bell, Ellis & Bell, and are now actively engaged in raising a fund to carry on this litigation, which has proceeded to the extent that a case has been tried before Judge Newman, the record has been perfected and is now in the Circuit Court of Appeals and will come before that court for determination in October of this year.

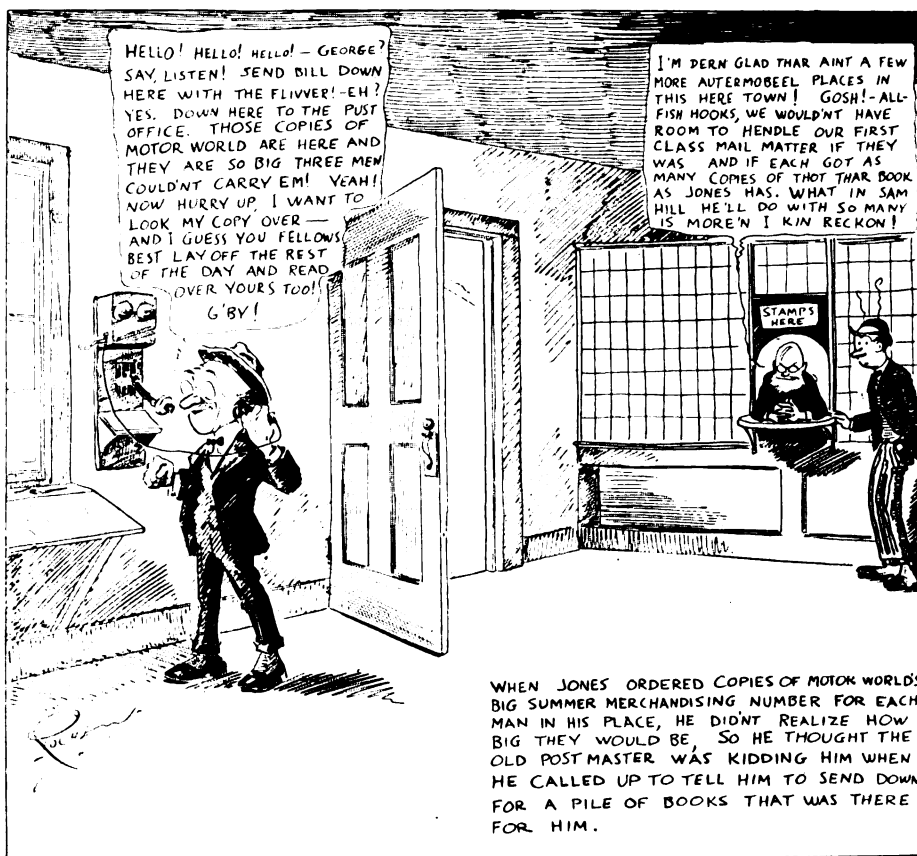
This is a typical case and one that will bring out every point that the dealers want definitely and finally decided. It is technically known as the case of the United States vs. one Ford automobile, Wisdom & Strickland, claimants. In this case Wisdom & Strickland, who are dealers, sold a machine, received a small cash payment and took a retention title note for the balance of the purchase price. About a week after this transaction was closed the car was seized by the revenue officers because some one had placed ten gallons of whiskey in the car.

#### Dealers' Co-operation Looked For

It is hoped that all dealers will give their active co-operation to the Atlanta association and will contribute liberally to the fund now being raised to provide the expenses of the suit. It is hoped that when the record of the proceedings is printed as required by the rules of the Circuit Court of Appeals, sufficient copies can be mailed to all subscribers to this fund.

## Dealer Jones Gets His Copies

By Roche



If this decision stands, it means that it will be most hazardous to sell cars on credit to anybody, and especially is this true in view of the sweeping national prohibition legislation that becomes effective July first of this year. *There are now pending some seventy-five to one hundred cases of this character in the Northern District of Georgia alone, and other cases are being made daily.*

This litigation is being handled by Robt. H. Martin of the Southern Oakland Co., president of the Atlanta Automobile Association, in connection with the Legislative Committee of this association, composed of John E. Smith of the John M. Smith Co., Atlanta, as chairman, and J. W. Goldsmith, Jr., of the Goldsmith Grant Co., and A. L. Belleisle. To be entirely conservative, it may be said that no piece of litigation has come before the courts that so vitally affects the business of our dealers as the present case.

### Share Your Profits

A GARAGEMAN in the city of Brooklyn has adopted what might be termed a profit-sharing scheme in which two of the employees of his garage share.

Only a short time ago this garageman employed two washers. They were required to wash all the cars on service, and also those not on service, that were ordered washed by their owners. The head washer was paid at the rate of \$30

a week and the extra man at the rate of \$22.50 a week. These two men generally used to start to work at 8 o'clock at night and work until they were through, which meant about half-past four or five in the morning.

The head washer suggested to the proprietor that he be permitted to do all the work on a profit-sharing basis. He suggested that he be paid 50 per cent of the price charged for washing cars not on service. In other words, he would wash all the cars on service and was then to be paid half of the garage's receipts for cars washed, but not on regular service.

For this work the garage charges \$1.50. The proprietor of the garage immediately inaugurated the plan, with a slight modification, by which the washer split the charge for washing a car 50-50 with the garage proprietor, and then the garage proprietor split his share 50-50 again with the polisher.

The plan has worked out so well that the extra man has been dispensed with, and the washer not only finds it possible to wash all the cars on service each night, but last week earned \$15.50 extra washing cars not on service. In other words, his pay for the week was \$45.50.

The plan takes a lot of worry off the garageman and insures that all cars on service are washed each night, and also insures that all cars not on service, which are ordered washed, will be washed, because the washer has an incentive to do the work. In short, everybody is happy and making more money.



## About

# Remembering Folks' Names

*Being a Few Words on the Much Muddled Subject of Memory and the Whys and Wherefores of the Thing*

BY RAY W. SHERMAN

"HOWDY, Mr.—ah—Fish!" hesitated and beamed Young Roper, as he walked into Reilly's office, where the boss was talking with one of the firm's prospects.

"Mr. Salmon," corrected Reilly, whereat the prospect laughed heartily and Young Roper hastily terminated his visit and retired confusedly and with red face to the salesroom.

"Fool—nut—mutt," were a few of the names Young Roper applied to himself, taking out his chagrin on the prospect file, selecting the cards of a couple of stickers and vowing he would have their hides inside of twenty-four hours or know why.

### Would Give Million to Remember Names

When Prospect Salmon and Reilly parted at the street door and Reilly turned back toward his office he smiled amusedly at Young Roper, whereat the junior salesman smiled a bit himself and looked as though he wanted to explain. "Darned fool break, wasn't it?" he said.

"Tickled Salmon half to death!" laughed Reilly. "He says people are always calling him Fish, Trout, Tripe and almost any other old thing in the piscatorial classification."

"But it makes me mad!" declared Roper. "I've always been weak on names. I can remember faces all right and generally can place the man fairly well, but when it comes to tacking a name onto him I fall down flat. I'd give a million dollars if I could remember names."

"That's a lot of money."

"I know it is. Maybe I would not give that much, but I would give a lot. Why, I'm even taking a memory course now, and that's the darned thing that got me in trouble. If it hadn't been for that course I might have forgotten it entirely, but I wouldn't have called the man Fish."

Reilly laughed again.

"You see, in this memory course they teach us to remember names by association. For instance, this man's name is Salmon. When I meet him I'm supposed to associate his name with the word fish and then remember what kind of fish he is. The system worked all right ex-

cept that I forgot to classify him. It was funny, wasn't it?" And this time even Young Roper laughed himself.

"But I'm darned if I think I can make it work," lamented the young salesman. "I can't see how I'm going to have a lot of men classed as fish, fowl and beast, and remember what each man is. Why," and he laughed, "one of the boys met a man named Beardsworth and said to himself: 'Beardsworth, whiskers full of money,' and the next time he met the man he said 'Howdy, Mr. Goldberg.'" Whereat Roper and Reilly both laughed.

"It's a great gift, this remembering names without fail," said Reilly, "but many men who can do that can't do anything else. About all some of them are good for is clerking in a hotel, which to my mind isn't such a wonderful job. Remembering is simply the ability of one mental faculty to function with dexterity nearly 100 per cent of the time. It's just like a juggler or a clog dancer. The man is good in vaudeville—and that's about all. He is skilled in one thing. You and I might become reasonably proficient in either one and still retain our normal abilities, and that's what we must try to do in this memory thing."

"I am fairly good at remembering names and faces, but, at that, a lot of the ability I have has been acquired. I used to have much more trouble than I have now. I also took one of these memory courses, but it didn't help me as much as I thought it would. The memory man was a wizard, but I never got to be as good as he was."

### A Mental Filing System

"The guy that's teaching our class is a wizard," said Roper. "He can remember anything. How he does it is a mystery to me."

"As near as I can get to the solution of this thing," Reilly explained, "it is mostly a question of having a good inventory system in your noodle. If you file the thing right and the system is kept up-to-date you can get the name out again when you want it."

"I once heard a man who knew quite a lot about this memory thing say that the whole thing was founded on simple principles. He said there were three

things: 1—Proper recording of the name. 2—Proper filing of it, and 3—The ability to get it out when you want it. He said if your first two steps were well taken the third step would be comparatively easy.

"It's like this: When you meet Salmon you hesitate a few seconds, take a good look at him, and repeat his name to yourself, even spelling it out in your own mind or doing any other mental gymnastics that keep your mind concentrated on him or his name for a short time. If you go through this concentration business it helps stick the name in your mind."

### Associate Name with Business

"Then you say to yourself that this man Salmon is so-and-so in such-and-such a company and you file the name away with all modern attachments for getting it out the next time you want it."

"The principal part, in my experience, is this stopping long enough to fix the name in your mind. If I have the slightest doubt as to what the name is I even go so far as to spell at it, or ask the man how he spells it—anything to have a couple of seconds of conversation and concentration on his name. This doesn't seem unusual to any man and it gives me the concentration that I need to stick the name in my mind."

"Then, while talking with him the first time, I plan to call him by name several times, pronouncing the name aloud so as to help me stick it in my memory. This has helped me greatly in remembering names, and even at that I'm far from as good as I'd like to be."

"The trouble with many of us," Reilly continued, "is that we hear a name and have practically no mental action in connection with it. The name is a mere incident in the introduction. We let it go in one ear and out the other. If we would only hesitate a second or two when hearing the name for the first time and firmly file it in our name stockroom it would help a lot."

"Well, believe me!" added Young Roper, "I've had some concentration on this man Salmon. I bet I'll never forget his name again."



# THE FLAT RATE PLAN

for

## SELLING SERVICE AND REPAIRS

By Percy E. Chamberlain

### Explanation

*This is the second installment on "The Flat Rate Plan," by Percy E. Chamberlain. The first installment appeared in last week's issue.*

*This story tells how a successful dealer took the trouble, grief and money loss out of his service and repairs. He is able to-day to collect bills of \$700 and \$800 without complaints or adjustments. The story is told here for the benefit of other dealers. With this story is a supplement (printed with last week's issue) showing the manner in which the forms and records are kept under this plan. Preserve the supplement, and have it in front of you as succeeding chapters of the story appear. It will run through several issues. A study of this story may mean thousands of dollars to you. MOTOR WORLD believes this is the most comprehensive and intelligent solution of the service and repairs problem that has ever been worked out. The plan is in operation in the house of the Cadillac Motor Co. of Denver, and the story is told by the manager, Percy E. Chamberlain, who worked it out.*

### PART I—CHAPTER II

**Y**OU probably would not think of grinding valves in an engine which was full of carbon without also taking out this carbon. You know the valve grinding job will not give satisfaction otherwise, yet many just bills for grinding valves have been criticized by owners because THEY did not think about this and no one told them about it when the job was accepted.

The shop did the extra work very properly but the SELLING of the job was handled poorly and, therefore, the effect of good workmanship was lost.

It is not enough for the man who makes up this sheet to THINK out the various steps. He should WRITE them down, taking whatever amount of space he finds necessary.

#### Hours Required and Charges

Determination of the operations and their descriptions will automatically fill up the other columns. For instance: As he thinks out just what has to be done in order to remove the radiator (Operation No. 2, Form 1), he sets down a liberal time limit for each step. There are the lamps to be removed, the old hose to come off, etc. Each takes so long, and

the aggregate should be set down in the fourth column. At the same time he thinks of the shop material needed, such as cotter keys, waste, etc. When he has finished with each operation he totals his figures for that operation, which gives him the total figure for the fourth column (operation hours). To this he adds the remainder of the group and gets the amount for the sixth column (group hours).

In order to price these operations and groups the prevailing per-hour charge for labor should be used as a basis.

#### Combinations of Operations

When these operations and groups have been determined for each car you repair the lists can be compared very readily for the purpose of combining these operations, which are practically the same. For instance: Operation No. 2 will be the same in every car which is water-cooled. Draining and refilling the radiator are mostly matters of the time required for the cocks to be opened and the water to drain itself out. There is practically no difference in time. Therefore, the general shop would quickly determine its No. 2 operation as follows:



PERCY E. CHAMBERLAIN

General Manager of the Cadillac Motor Co. of Denver and Originator of the Flat Rate Plan

*"No. 2—RADIATOR—Drain and refill. All makes of water-cooled cars."*

Following this out, you will find many identical operations, as stated above. It is better not to try to collect these in your mind as you go along. It is little extra work to make separate lists. If you try to figure out two cars at once you are apt to lose sight of something one requires which the other does not. Run through each and then compare the lists later.

You will find but a slight difference in many operations which do not absolutely fit one another. A slight difference in construction may make the time of performing the same operation on one make of car greater than on another make. If this difference is slight you can still combine them later on when you make up your FLAT RATE price list, but for the present it is better to keep them separate in order to establish your averages both as to costs on the individual car as well as to the relative number of jobs you handle on each every month.

#### Operations Which Cannot Be Priced

There are a certain number of operations upon every car which can never be given a flat price. Such jobs as straight-



### THREE PARTS TO THE STORY

*This explanation is divided into three distinct parts which the reader should firmly fix in his mind at the start.*

**PART ONE**—Covers the preliminary work necessary for the repairshop to do before it can actually prepare and work under an exact **FLAT RATE SCHEDULE OF PRICES**. Since the Flat Rate Price Schedule is based upon the costs of the individual establishment, this preliminary work is absolutely essential.

**PART TWO**—Covers the preparation of the Flat Rate Price List after the preliminary work has been done. It shows how the orders are handled under the system and how averages are kept to prove out the charges.

**PART THREE**—Covers the method of selling repairs under the Flat Rate Plan, the method of making written estimates and of writing the orders. The plan is new to the customers of the repairshop which adopts it and it is vital to the success of the plan that it be constantly **SOLD** in the **RIGHT WAY**.

ening a fender, taking a dent out of the body, straightening an axle, etc., will always depend upon the extent of the damage. One fender may take a few moments to straighten, whereas another, damaged in a bad wreck perhaps, will take several hours to repair. Obviously, you would never charge the owner needing a half hour's work with an average of, say, two hours. While this same condition applies to all parts of the car, it is not apparent except in a few instances.

The difference between this kind of operation and those having to do with engine, transmission, rear axle, etc.—those which make up the big majority of your list—is the reason why one comes within the law of average and the other does not.

All of the standard operations consist of repairs made necessary because of the wear upon the car itself. While one job of the same kind may take longer than another because of varying conditions under which the cars have been handled by their owners, you will find that, month in and month out, the average time for each operation will be maintained.

On the other hand, such repairs as are necessary to fenders which have become smashed, bodies that have become dented, etc., are the result of outside forces. They result from wrecks. They are not due to friction of wear parts, lack of lubrication or any of the other **INTERNAL** causes which, experience teaches, make general repairs necessary to any car. Consequently no law of averages covers them. If all automobile wrecks happened in exactly the same way it

would be easy to include the damage caused thereby in the averages.

This is one of the difficulties encountered in establishing a **FLAT RATE** price list. It is not, however, as great as it might seem. The proportion of jobs of this kind to the total is *very small*.

Each job of this nature is given a number the same as any other job. The price is **LEFT OFF**. Before the number a symbol is used—a star (\*) for instance—which indicates that the price

#### Preserve the Forms and Study Them

will be furnished for each individual job as the work comes in. The man in your shop who does this work—probably your blacksmith—will soon become familiar with pricing it. Many shops send this work out, in which event the problem is already solved, as you cannot usually price outside work.

#### Prices Which May Be Varied

There will be a few operations upon which it will be *policy* to vary the prices according to the amount of work to be done, or, more properly speaking, the nature of the trouble. These have to do with work which is very apparent to the owner.

I have carefully studied the law of

averages as applied to charges for work on automobiles and, without going into the matter in detail, do not hesitate to state that the *flat rate does not overcharge the customer in the long run*. It is give and take just as all flat prices for repairing, regardless of the kind of repairing, must always be.

A pair of shoes is half-soled for so much money. No doubt one pair of shoes requires less work than another pair. Yet the price is the same for both. On the other hand, one would not pay for half-soleing a pair of shoes if all they require is a little sewing around the uppers.

So it is with certain labor operations. The averages kept may show that the price on all the work of a certain kind which comes in during a period of several months is \$1.50. Yet an owner may come in with repairs to that particular part requiring but fifteen minutes. You could not, as a matter of policy if nothing else, charge him \$1.50 for fifteen minutes' work.

As an illustration of this sort of operation, let us take repairs to an air pressure hand pump. This sort of pump is used upon the dash of several cars. Very little happens to it and it is not worth dividing into several operations. Therefore, the one covering it would read:

#### 140—AIR PRESSURE HAND PUMP—Repair.

If the repair means a new gasket only, it can be done in fifteen minutes. If, on the other hand, there is something seriously wrong, the pump will have to come out and the time will run into two or three hours. Whatever your average is, you cannot collect it from the man who needs the gasket, since he will usually wait for the car and knows it was a small job.

Again, this is a *minor difficulty*. The operations of this kind are few in number and each occurs *very infrequently*. As a guide, it is best to show the average price, marking such operations with another symbol which means that the price may be varied when, in the judgment of the "trouble-shooter," it is too much. Your operation list would show it thus:

No. 140—AIR PRESSURE HAND PUMP—Repair .....\$1.50

#### Operations Which Include Material

It is best not to include material in any of your operations. Price everything as the labor charge only. If you make some things in your shop, such as truss rods, hand-brake lever rods, floorboards, etc., charge them separately as material or at a flat price for the article itself, the operation number covering only the labor of removing the old part and putting in the new.

In this way your averages will not be confused and it will not be necessary to make any exceptions to your rule that *prices include labor only*. Owners, through lack of technical knowledge, are easily confused and have no way of



knowing which of your operations include material and which do not.

### The Working Lists

Having determined upon your operations and groups, you proceed to prepare a working list of operations for use in various branches of your business. This list is shown as Form No. 2, covering the same eight operations as shown on Form No. 1.

A copy of this list should be used by the man who takes in the work, by the employee who does your billing, and several copies should be distributed in the shop to familiarize your men with the operation numbers and groups.

During the progress of establishing your prices it is best not to include your estimates in the working lists except those used by your foreman and yourself. The prices represent the opinion of one man in your organization—and yourself—unless you are actively engaged in running your shop. If you do not believe this, take some simple operation such as, say, spreading and graphiting springs. Ask several of your employees how long this should take. Probably *no two will agree* on the time even approximately.

### Educate the Men

When you start with this plan your workmen will immediately jump to the conclusion that it is designed to speed them up and *they will resent it*. It **WILL** speed them up in spite of themselves, *if it is handled correctly*, but you will have to educate them to it, bearing in mind its newness and that they do not appreciate the angles from which you, as proprietor, are working.

Since much of its success depends upon the co-operation of the workmen—mechanics, if you will—you should figure *their education along this line as one of your tasks in connection with the object you are to attain*.

### Call a Meeting

Call a meeting in the evening, when you can discuss this thing without interruption. Show your workmen how much money you have been losing through "adjustments" of bills. Explain thoroughly the necessity for the change and that you are going to ask their **HELP** in carrying it out. Each month, as you keep your averages as a check on the original estimates, *hold a meeting* and read them the averages—the work they are actually doing. You will soon find that they are really interested. There will come a time when you can give them the prices and they will strive hard to keep within a certain time limit on each operation, *thereby reducing your averages and your charges to the owners*.

### Organization Meetings a Big Help

But this cannot be attained immediately any more than you can establish the standard price list until you know your costs and the average time for each operation. If you have been as liberal as you should be in making up the group

estimates, you will find that your workmen will think you are getting rich at their expense. A man getting 50 cents per hour will consider nothing else usually. If you charge \$1.25 for that hour, he overlooks the rent and taxes and all of the other things which must be added to his 50 cents. *Thus, the more you can show him your costs, the more likely you are to develop a satisfied, efficient workman where before you had one who resented shop reforms and a check upon his work.*

### How the Time Should Be Kept

Following out the plan in logical order, the next step is your time keeping. Your immediate object in doing all this work is—what?

*It is to keep exact records in detail of every operation—not every job, remem-*

### Study the Forms

*ber—performed in your shop in order that you may, after a while, make up a STANDARD FLAT RATE PRICE LIST based upon costs.*

Since accuracy of keeping time is the groundwork upon which your averages are to be based, it would be *utter foolishness* to attempt the plan without some provision for time keeping which will be **ACCURATE** to the *n*th degree—not fairly accurate, or approximately accurate, or "about right."

### Mechanics Should Not Keep Their Own Time

Here is submitted a general system which aims at one of the trade's oldest customs—that of *allowing the workmen themselves to keep their own time*. There is not another large employer of labor in the country who does this universally. No system which contemplates the keeping of time on jobs by the men who work on them can be accurate and a success from all angles.

Form No. 3 gives a simple Time Sheet which should be used with a **TIME-KEEPER**. This Time Sheet is filled out to illustrate the method of handling time here advocated. You may, in your individual business, consider a Timekeeper a useless expense. In any establishment employing more than one or two men a Timekeeper will pay for his salary over and over again. In the smaller establishment there is usually someone who can act as Timekeeper along with his other duties. Perhaps he is the stock-room clerk. Or, if you have had neither, it may pay you to combine the two, getting for one salary a check on your shop time as well as being sure of your stock-room charges.

*Each individual must work out these things for himself since it is impossible for this explanation to contemplate each individual's arrangements* But one thing is certain. You will not get accurate time unless you put some check upon it

besides the men who are spending it for you.

You must separate your time in a way you have never done before, since **NON-PRODUCTIVE** and **IDLE** time become of as great importance as the time you actually charge the customers—the **PRODUCTIVE** time.

You expect, finally, to base your flat rates upon **COSTS**—*NOT upon an arbitrary per-hour charge*. This strikes at another moss-grown custom. Where would the average merchant "get off" if years ago he had fixed prices on the articles he sells to-day (all merchandise consists of the things you are selling—labor and material) and had kept those prices ever since, regardless of increases in his labor costs and overhead? Yet that is, in effect, what automobile repairmen have done. Someone, some time in the industry's past, said:

"We will charge 75 cents an hour for labor." Some years later someone else said: "We will raise that to \$1 per hour."

Recently a few of us have raised again. But the point is that thousands of repairshops are operating on a per-hour charge without knowing whether it is too much or too little from the standpoint of their costs. This feature will be covered more fully later on. The above is submitted here in order to show you that, unless you know your costs, you cannot establish the proper kind of a Flat Rate Price List.

Of course, you can establish a price list. You can base it upon any per-hour rate you like. But it is presumed that you wish to make money in your business and if you do—and *you are entitled to*—you must reverse the order and base your prices upon your **COSTS**. Whatever the charge they establish—50 cents per hour or \$2 per hour—you must get this amount for your work or you will lose money.

*Here is the way you must divide your time:*

**PRODUCTIVE**—This is the time you actually charge to customers. It should consist of the time your workmen actually put in working on the jobs to which they are assigned. Do not call their time productive while they are "getting ready" to go to work. When they are actually on the job with their tools, then and not until then, their **PRODUCTIVE** time starts.

**NON-PRODUCTIVE**—This is time consumed by men on your pay-roll in getting cars into and out of stalls, covering up seats, fenders and doors, etc. This should be done by ch labor and, if possible, none should be done by mechanics. Tinting parts, chasing around the for tools, talking to customers should not be done by mechanics.

**IDLE**—This is time during which mechanics are actually idle. nothing at all because there work for them to do. This "readiness to serve" proposition. That is, you must have men t dle your usual volume and, if



day comes, you cannot discharge them.

**EXPENSE**—This is time used by your mechanics in doing necessary work about the shop in order to keep it up. It consists of oiling machinery and repairing same, fixing benches, repairing drop lights, etc. If you called in a carpenter to fix a bench, you would pay his bill and charge it to expense. It is just as much of an expense if you pay one of your own workmen to do it.

**MANAGEMENT**—This is the time of your shop foreman, service manager and his assistants, timekeeper, etc. If your foreman actually works on customers' jobs, his time should be handled the same as a workman's on the time sheet. Otherwise his salary is merely a matter of office bookkeeping.

While all of this looks very formidable, it is really very simple if you will discard former methods which allowed mechanics to punch a time card. If they keep the time, you will not get these divisions—depend upon that. If you are not willing to make this reform, you had better worry along under the old methods and let your up-to-date competitor adopt the Flat Rate Plan.

The Time Sheet—Form No. 3—is purposely made simple. It involves no equipment or expensive time clocks. The smallest garage can use it. Of course, the same idea can be used in the large shop in connection with time clocks, if they are considered an essential. In any event, the *Timekeeper* should make the records of time—NOT the mechanics.

Bear in mind this one fundamental: **A WORKMAN NEVER FINISHES ANYTHING as far as the time sheet is concerned.** He always **STARTS**. If he *finishes* a job and has no other actual work in sight, *he must still START*, if only to *start to be idle*. For this reason, the time sheet provides no place for "Finish." His pay does not "finish" until closing time. Therefore, he must account for every part of his day. He *starts*, then, on a job, the job number being shown opposite the starting time and under the workman's number. Or he may start, NON-Productive time, or expense time, or idle time. In each case the symbol shown on the time sheet is used. Each sheet covers one day in your shop, and if you have other separate and distinct departments such as Service, Trimming, etc., a sheet is used each day in each.

### The Operation Time Sheet

thought has probably occurred to you have read, that you would way of billing short jobs from e sheet. Your shop may be on floor and you have always sent e workmen's time tickets to the short jobs so that the bill can up.

are not on a cash-in-advance u are not interested in quick nd the charges could be made time sheet the following day ice. However, since a majority shops ARE on a cash basis, this

explanation, in order to cover the matter completely, must explain how bills can be quickly made out.

Then, too, even if you do not need a quick bill, you would find that your time sheet does not give you a complete record for your average keeping. For instance: How would you prove out material charges on each operation? Your old methods of keeping material charges, whatever they are, would tell you how much you had charged to the entire job. But you have to know how much material you used on each part of that job—on each operation.

This is handled by the Operation Time Sheet—Form No. 4. This little sheet serves several purposes. Upon it the Timekeeper shows a record of the men who worked on each operation, their start and stop time as far as that operation is concerned, and the material—shop supplies, not parts—charged to that operation. There may be twenty or more of these for one job number. They are kept in a loose leaf book, indexed according to the job number under which they come. This filing is important, since there may be several Operation Time Sheets for the same operation in the shop at one time and if the job numbers become mixed, there would be endless confusion.

When the Repair Order is completed these Operation Time Sheets are sent to the office or to whoever does the billing. From them the bill for the customer is made up. The following morning the Time Sheet—Form No. 3—is checked against these Operation Sheets and the total of the latter for each job must coincide exactly with the total time put on that particular job as shown by the Time Sheet. Errors will be caught in this way, offering opportunities for quick refunds to customers which, in itself, inspires confidence.

Having served this purpose, the Operation Time Sheets are the original records which are posted into the loose leaf

### Study the Forms

RECORD OF OPERATIONS BOOK, of which an explanation will come later.

Perhaps the customer "kicks" on his labor charge. Immediately he can be shown, from these Operation Sheets, an analysis of the total time put on his job. A labor charge of \$50 looks big to him as such. Divided into many parts, a half hour on this, an hour on that, ten hours on the other thing, etc., it knocks his grounds for complaint from under his feet. These little Operation Time Sheets have been instrumental in saving hundreds of dollars for one firm using them. Worth quite a little trouble to keep them, would you not say?

### How the Order Is Written

Time is turned in by the workmen at the start and finish of each operation or part of that operation. The division is given to them on the work order. In no

case should such orders be verbal, no matter how small the shop. The best way is to write the workman's order as a carbon copy of the repair order. As originally written by the man who takes the order from the customer, this will have the number of the objective operation only.

When the order gets to the shop either the Timekeeper or the Foreman—preferably the former since he becomes more familiar with the operation numbers and groups than anyone else—puts the group numbers on each part of the order. Remember that you now have several Working Lists posted in the shop where they may be quickly referred to by the workmen. These give him in detail the work to be performed under each operation so that each work order need show nothing but the objective operation and the group numbers. It would not be necessary to supply the group numbers on each order, but it is much better because the workmen otherwise would spend considerable time looking up groups. Under this plan they have nothing to familiarize themselves with except the operation, and that is easily found because they are in numerical order on the Working List.

Thus his order may read:

3—Repair Radiator. Group 1-2-3.

He checks in on operation No. 1, Form 2 (Drain and refill). As soon as it is drained he checks as starting on No. 2 (remove and put back radiator). As soon as it is removed, he has gone as far as he can on that job for the present. When the radiator comes back after being repaired, he checks as starting again on No. 2. When he has replaced the radiator, he checks in as starting again on No. 1. As soon as it is refilled he has finished with the complete job and the Timekeeper checks him as finished on the Operation Time Sheet and as starting something else on the main Time Sheet.

Perhaps he is doubtful as to just how much work he is supposed to do on No. 2. For instance: He may have to remove the lamps on a particular make of car. Is that a separate operation, or is it included in No. 2? A quick reference to the Working List shows him just what is contemplated.

The Timekeeper, if as good a man as he should be, will soon become so familiar with the entire procedure that he will immediately check any discrepancies in reporting time. If the workman forgets and does not check off on No. 1, it will be quickly noted when he checks off on No. 2 and can be immediately adjusted.

### Added Operations

Written orders should follow the list of operations as closely as possible since certain work done in a certain way is contemplated by each operation. In case work is ordered which is not covered by the list, having been overlooked when it was made up, it should be given some odd and easily distinguished number such as 1000, 2000, etc. These odd operations should not be immediately added to the



standard list, as they may not occur again for months. However, a careful record should be kept of them in the OPERATION RECORD BOOK, and if they do occur frequently they should be assigned regular numbers and added to the list.

This should not happen often during the period of keeping averages, as Miscellaneous Numbers will cover everything not contemplated in detail. Thus, after assigning a number to every operation to be thought of, as usually performed on the generator, for instance, include in the list a number for "Generator—Miscellaneous Repairs." Under this number may be grouped all of the generator work not covered in detail by other operation numbers. The final office record will show how often the same kind of work occurs under this Miscellaneous number. Those which do re-occur often can be added to the list when the Flat Rates are established.

### How to Bill the Work

During the time of keeping these records little change can be made in the method of billing labor to customers, although under the Flat Rate Method the change in method of billing labor brings one of the greatest advantages of the entire system. Since the work is still being done on the per-hour basis, the change has not become obvious to the customer except, perhaps, in the more definite way in which his order is handled. So far the entire changes have been *internal*—a matter of organization methods and records.

Labor should be billed as a *lump sum* and the order should not be repeated on the bill. If the customer desires a copy of the order, give him one as such. If he sees the items in connection with the charge for labor, he will question the entire charge in case some of the work has not been done, even though he himself changed his original order. It is hard to convince him of the fact that, on the per-hour basis, he could not have been charged for work which was not done.

This is one of the trade's customs, the importance of which is magnified. Few customers care to have a copy of their orders. If the trouble is corrected, that is all they care about. Those who occasionally require it can easily be supplied as a special matter. To attempt to give every customer a copy of the original order is wrong in practice, if right in theory. Too often they are changed for one reason or another, perhaps over the telephone, and the same detailed record cannot be placed in the hands of the customer side by side with the original upon which he may, later, base his demand for an "adjustment" of the charge.

The billing is improved from the fact that the labor charge can now be an-

alyzed, and this will be found a big help in such adjustments.

### The Repair Order

Very little need be said about the Repair Order. Like the billing, it comes in for radical changes under the operation of the Flat Rate Plan. Under the preliminary work it is changed but little. It becomes definite, however, since it must follow the operation list. No general orders, which mean nothing to the workman, can be written. The shop cannot "overhaul" a car or "take out rattles." The entire plan contemplates *definite trouble shooting before the order can be written.*

Most repairshops use an "Additional Order Form." Those who do not should adopt it, regardless of the Flat Rate Plan. Under this plan it is absolutely necessary. If an owner orders additional work over the telephone an additional order should be written in the same way as the original. This additional order

### Study the Forms

takes on added importance and significance under the Flat Rate plan later on.

### Keeping the Averages

A record of all work performed is kept in detail in the Operation Record Book, which is explained later. Some operations will not give you averages which can be used. These are the kind previously discussed, such as repairing fenders, taking dents out of bodies, etc. There should, however, be a page in the Record Book for each of these since it is no more trouble to put them down daily along with the other operations. You will want to know the total amount of work performed, the amount collected for same and other information of this kind, and for this reason every operation should be included in the Record Book.

### The Office Records

Having seen how we establish the operations and groups, how they are entered upon time sheets and the method of turning in time by the workmen, our attention must now turn to the office where the books and records are kept. It goes without saying that repairshops of any size and consequence have *some sort* of office. However, there are thousands of small shops which either keep no books or keep them in such a fashion that they will be unable to handle these records with their present system or lack of it.

Unfortunately, many men conducting repairshops consider a bookkeeper a needless expense.

However, certain records and a set of books *must be kept* if the shop is to finally arrive at a definite Flat Rate schedule of prices.

The individual must, of course, work out the details for himself. Perhaps, like the keeping of time, this work can be added to the duties of some one now in the office. Usually it can be handled by the billing clerk—the employee who makes out the customers' invoices, when one is employed. Or, in the small shop, the Timekeeper may be able to handle it.

Each morning the repairshop sends to the office the Time Sheet—Form 3—for the preceding day. The Operation Time Sheets—Form 4—have already been sent down the day before for the completed jobs. These are held until the arrival of the Time Sheet. Then the aggregate time for each completed job, as represented by the total of the Operation Time Sheets, is compared with the total time charged on the invoice, a copy of which in carbon is retained in the office.

If the customer has been overcharged, a check should be sent him at once in case you have collected cash from him. Or, if you are doing a credit business, you should issue a credit memo, and advise him. If, on the other hand, the mistake is in his favor, you should issue a corrected invoice and mail it to him with a letter of explanation. To err is human. All billing clerks make errors now and then. *It is no disgrace to acknowledge one.*

The next thing to be done with the Time Sheet is to take off the time for the payroll and for the purpose of making the charges to the customer for that day's work on jobs as yet uncompleted.

For taking off the time another sheet is used in loose leaf form. (Daily Statement of Service Work. Form 5.) This is necessary because several workmen may have checked in time on the same job. If you start with Workman No. 1 and enter his time on the jobs he worked on, you may find that other workmen figured in the same job and you may have several entries instead of one for that job on that day.

Starting with Workman No. 1 on the Time Sheet you set down his first job at reporting time in the morning in the first column of the Daily Statement of Service Work Sheet—Form 5—with the hours and fractions and the rate charged for his time, say \$1 per hour. Whenever the Time Sheet shows *Non-Productive* or *Idle* or *Expense* time you take that off in the same way, except that you use the *actual cost* of the workman's time instead of the rate charged to a customer.

When you reach the bottom of the first column on the Time Sheet—Form 3—you set down the total hours this man has worked during the day, and this is transferred to the payroll book from which you figure his wages at the end of the week.

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Learn Thoroughly This Week's Lesson—Watch for Next Week's

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# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

## What Prohibition May Mean to You

The drastic decision referred to among the news items on page 12 of this issue would mean that a person lending a car, a person selling a car on a conditional sale agreement or a person holding a title mortgage on a car would lose all his interest in the car if the person to whom he loaned it sold it or from whom he took the mortgage was guilty of using the car for concealing or removing distilled liquor.

In this particular case a proceeding was instituted by the United States to forfeit a Ford automobile on the ground that it had been used in the removal and also for the deposit and concealment of 25 gal. of distilled spirits, contrary to Section 3540 of the United States Revised Statutes.

This section provides that "whenever any goods or commodities for or in respect whereof any tax is or shall be imposed, or any material, utensils or vessels intended to be made use of, for or in the making of such goods or commodities, are removed or are deposited, or concealed in any place, with the intent to defraud the United States of such tax—all such goods and commodities and all such materials, utensils, etc., shall be forfeited . . . and every vessel, boat, cart, carriage or other conveyance whatsoever . . . used in the removal of or for the deposit or concealment thereof shall be forfeited."

It appeared that the owner of a car had interposed a claim to possession of it on the ground that he had sent an employee on an errand with the car and that he had no knowledge that the latter would use the automobile to defraud the Government.

The Circuit Court of Appeals, Fifth Circuit, in *U. S. vs. Mincey*, 254 Federal Rep. 287, in an opinion by Judge Walker, reversing the District Court, said in construing the statute:

"Nothing in the terms of this statute indicates an intention to make the right to a forfeiture depend upon ownership by the person guilty of a specified unlawful use of it or upon the fact that the owner of the property shared in the guilt of the unlawful user of it. . . . It is not a novelty to subject property used for an unlawful purpose to forfeiture though the owner of it was not a participant in the wrongful conduct and no criminality is imputed to him. . . . We understand it to be settled that,

under statutes like the one in question, property is subject to forfeiture, though the owner did not share in the guilt of the user of it to whom the owner had entrusted possession and control."

## When Is a Ford?

Editor Motor World—Please answer this through the Legal Department of your paper:

In the month of May, 1918, A buys from B, who is a dealer, a Ford car, which B represents to A as a 1917 Ford, which has been driven about 1000 miles. In January, 1919, it became necessary to have this car overhauled. A takes this car to C, another garageman, and upon examination, C finds it necessary to replace the following parts: Triple gears; high, low and reverse speed drums; crankshaft bearings; commutator, and a number of other small parts.

When C notifies A of the necessity of new parts, A complains, as he is supposed to have bought a car that was nearly new. Upon A's complaint C shows to A where he has purchased a car that was made not later than July 1, 1915, by certain marks and parts which were used in the car's construction. This car evidently had been dressed up for deception as the cylinder block bears the following numbers: (Date) 2-12-16. Where the serial numbers which should have been stamped on side of block belonged the following numbers are stamped: EJ 195.

Now, when A applies for his license, he has his application returned five times, owing to the fact that he was unable to supply proper motor numbers. After his application was returned the fifth time A goes to B and tells him that he must get him (A) a license. In a short time B supplies the license, but up to the present time A has received no card from the State showing the year or motor number of the car for which the license was issued. The question which now confronts A is: What is the chance of bringing suit against B for recovery of damages?—Patterson Brothers, Jonesburg, Mo.

Answer—It is always easy enough to institute suit. It is more difficult, however, to recover a judgment and still more difficult to collect after judgment is entered.

In a case of this kind you would be foolish if you did not avail yourself of your legal right to sue. You should not delay, however, but place the matter in

the hands of your local counsel at once if you have not already done so. Follow his advice, and his advice alone, as he knows the law of your State and knows the facts and naturally wants to see you win.

## Ohio and South Carolina Garageman's Lien Laws

Editor Motor World: I would like very much to have you give me the gist of the garagemen's lien law of this State. Doing business as an individual, is it necessary to file a certificate of doing business under a trade name?

Can a garageman be held liable for cars stored in his place provided he has notice that cars are stored at owner's risk?—Elliott's Garage, Holland, Ohio.

Answer—In my last compilation of the lien laws of the various States, which was published last September, I did not include Ohio because, after searching through the general code, I cannot find that it had any law which gave a lien to garage or repair men. I have heard of no new law having been passed in Ohio since that compilation was published.

There is a provision in the Ohio law that a certificate should be filed if you intend to do business under a trade name. Do not attempt to do this yourself, however, but let your local attorney do it, as the charge will be small and you will then have the satisfaction of knowing that it is properly done.

The posting of signs in a garage really does not relieve a garageman from any liability, because he is not an insurer of property left with him, but simply gives notice to the customers that he is not an insurer. Even though signs are posted, a garageman may still be held responsible for negligence causing destruction of the property left in his care.

Editor Motor World: Please send me a copy of the Garageman's Lien Law for South Carolina. I am not certain that we have a lien law in this State, but please advise the best you can.—A. L. Reaves Garage, Bishopville, S. C.

Answer—In South Carolina mechanics have a lien upon personal property for the charges due them for labor or material bestowed in the improvement of the same. This is really the Common Law Lien and is lost when the property is allowed to go out of their possession. It is time they got together and secured a real garageman's lien law.



A Department of

## BETTER MECHANICS

No. 101

## Belting and Pulleys

*Figuring the Size, Speed and Strength of Belting and Selecting the Proper Size Pulleys to Produce Desired Results in the Shop*

**S**HOP belting may be either of rubber or leather, the rubber belts having from two to six plies of fabric, each ply separated by a layer of rubber, somewhat after the fashion of an automobile tire casing. The load that the belt will have to pull and the speed of the belt determine the width and thickness.

1—The width of the belt should be such that the pull for each inch of width will be  $10\frac{1}{2}$  lb. for each ply of fabric. Single leather belt of average quality is considered as equivalent to 4 ply and double leather as 6 ply.

2—The thicker the belt, the greater must be the diameter of the pulleys that it runs over. There should be at least 3 in. diameter of pulley for each ply in the belt. Thus a 3-ply belt must not turn over a pulley smaller than 9 in. and a 4-ply belt over a pulley not smaller than 12 in. The larger the diameter, within reasonable limits, the longer the life of the belt will be and the smaller the diameter the shorter the belt will last.

By J. HOWARD PILE

## Load Capacity of Belts

The load that a belt will transmit is found by getting the belt speed in ft. per min., multiplying this by the total pull the belt can stand and then dividing by 33,000. This can be worked out by formula:

$$w = 4000 \times \frac{HP}{dn} \text{ for 3-ply belts}$$

$$w = 3000 \times \frac{HP}{dn} \text{ for 4-ply or single leather belts}$$

$$w = 2400 \times \frac{HP}{dn} \text{ for 5-ply belts}$$

$$w = 2000 \times \frac{HP}{dn} \text{ for 6-ply or double leather belts}$$

$d$ —diameter of either pulley in inches.

$n$ —number of times that pulley revolves in 1 min.

$w$ —width of the belt in inches.

$HP$ —horsepower to be transmitted.

## Belt Thicknesses for Pulleys

Ply of belt...	2	3	4	5	6
Smallest diameter pulley to use...	6 in.	9 in.	12 in.	15 in.	18 in.

## Variations in Pulley Speed

1—If two pulleys of the same diameter are belted together by means of a belt that does not slip, the speeds of these pulleys will be equal.

2—If the pulleys are of different diameter, the speeds of the pulleys will be such that the diameter in inches of one pulley multiplied by the r.p.m. of the same pulley will give the same answer as the speed of the other pulley multiplied by its diameter in inches. The formula for this is:

$$dn = DN$$

An example of this would be where an engine is to be belted to a line shaft and a dynamo driven from another pulley on this line shaft. See Fig. 1. Assume that the engine is 6 hp., that the pulley on the engine is 10 in. in diameter and that the engine runs at the speed of 450 r.p.m. It is required to drive the dynamo at a speed of 1200 r.p.m. and 2 hp., is required to drive it.

As the speed of the line shaft is unknown, assume that it is 300 r.p.m., which is an average speed for line shafting. Using the formula  $dn = DN$ , in which  $d$  is the diameter of the engine pulley or 10 in.,  $n$  is the speed of the pulley or 450 r.p.m.,  $D$  is the diameter that it is required to find and  $N$  is the speed of the line shaft or 300 r.p.m. Then

$$10 \times 450 = D \times 300, \text{ or} \\ 4500 = 300D$$

Dividing 4500 by 300 equals 15, or  $D$ , therefore a 15-in. pulley would drive the line shaft at 300 r.p.m. The same operation is carried through in finding the pulleys from the line shaft to the dynamo. The dynamo pulley is 4 in. and the speed 1200, so that  $DN$  equals  $4 \times 1200$ , or 4800. The line shaft speed is 300

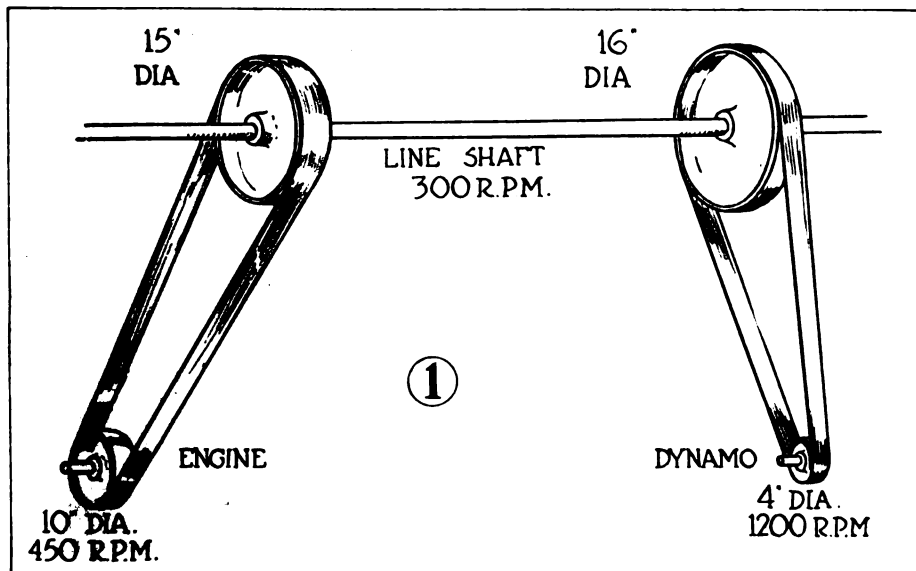
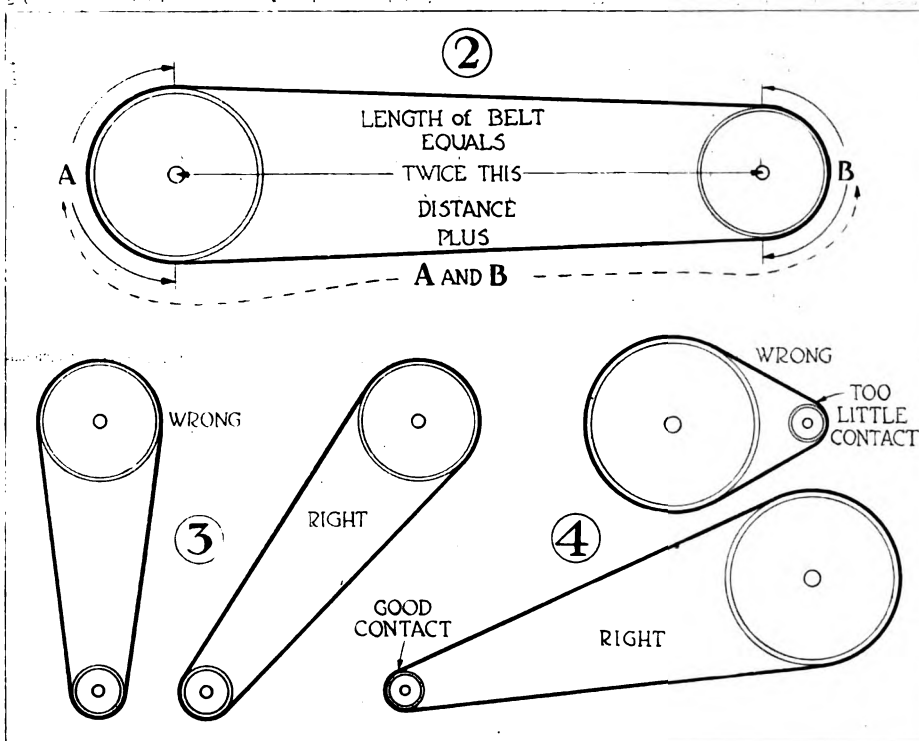


Fig. 1—This is an illustration of the example solved in the column to the right. The engine speed of 450 r.p.m. is changed to 1200 r.p.m. to drive the dynamo





Above—Fig. 2—Figuring the length of a belt to go around two pulleys. Fig. 3—Shafts should not be placed one over the other, but at an angle, as indicated by "right." Fig. 4—Where pulleys are of widely different diameters, the belt should be as long as possible so as to get greater contact

Below—Fig. 7—Application of the safety switch to a plant using an electric motor. Pulling any switch stops the motor. Fig. 8—Where a gas engine is employed, small switches can be used and these are kept closed at all times, as opening any one will cut off the ignition. Fig. 9—A high tension magneto has switches like the coils, but these are kept open and closing any one will ground the magneto

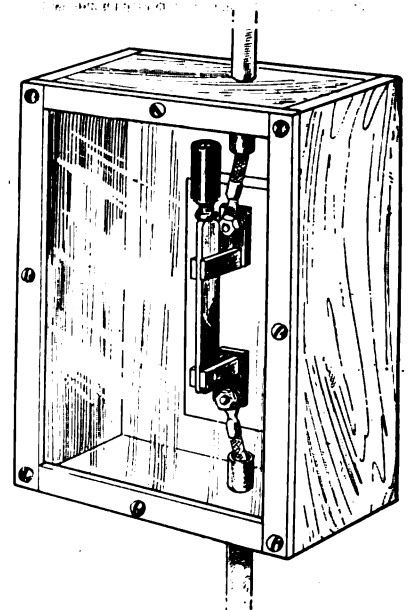
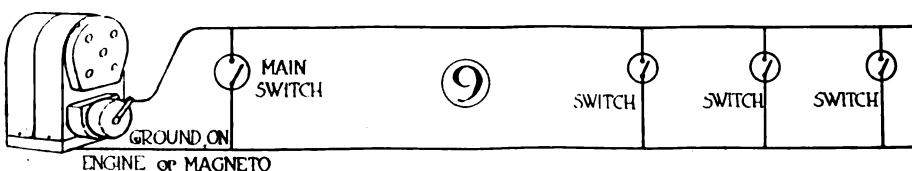
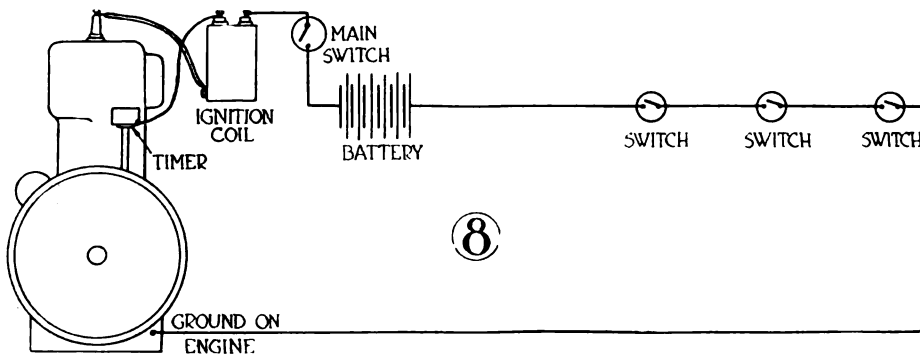
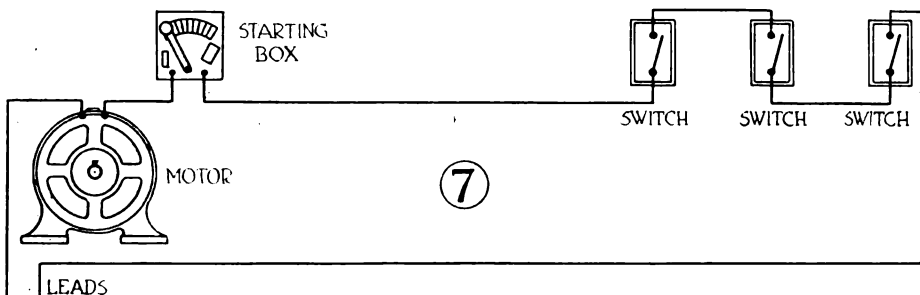


Fig. 6—The switch is enclosed in a glass front box to prevent unauthorized tampering. These boxes can be located at any convenient points

divided into 4800 equals 16, and therefore the diameter of the line shaft pulley is to be 16 in.

Making use of the same example to find the proper size belts for the different units, a 4-ply belt would be used for the engine.

$$w = 3000 \frac{HP}{dn} = \frac{6 \times 3000}{10 \times 450} = 4 \text{ in. width of belt}$$

The dynamo will require but a 3-ply belt because of the small pulley.

$$w = 4000 \frac{HP}{dn} = \frac{2}{4 \times 1200} = 1.7 \text{ in.}$$

Use a 2-in. belt.

3—To find the length of belting required to go around any pair of pulleys, take twice the distance between the centers of the pulleys and add to this enough to go half way around each of the pulleys. See Fig. 2.

#### Belt Operation

1—New belts should always be cut a little short so that they will be tight. The shortness should run from 1/16 in.

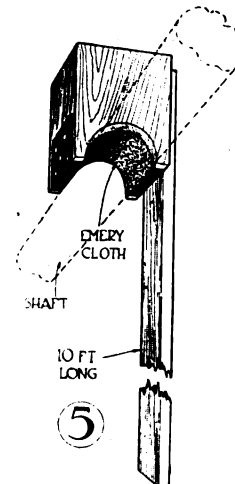


Fig. 5—This is a block with curve cut in the bottom and a covering of emery cloth. It is used to clean the rust from the line shaft



to 3/16 in. for each foot of belting required. This can be done by running a piece of wire around the pulleys in the position the belt will occupy, stretching it tight and measuring the length. If the wire shows a length of 30 ft., and we allow a shortness of 1/4 in. to the ft., then the belt should be cut 29 ft. 8 1/4 in. long.

Keep the working surface of the belt clean, smooth and soft. The pulleys should be cleaned off about once a week, removing any hard lumps with a suitable tool. A good belt dressing will preserve the belt and make it more efficient.

3—Run belting as nearly horizontal as possible. Avoid having one pulley directly over the other and if such conditions are necessary, as in the case of driving a lathe, try to get a little slant to the belt. See Fig. 3.

4—If there is much difference in diameter between the two pulleys, try to arrange things so that there will be a considerable distance between the pulleys so that the belts will wrap around the pulleys and have as much surface as possible to cling to. Fig. 4 shows the right and wrong way of doing this.

5—Leather belts are to have the smooth or hair side next to the pulley face.

6—Proper and regular lubrication of the shaft bearings will insure continuous service and cut down the power required to drive the machinery.

7—Perfect alignment will go far toward raising the efficiency of the equipment. Shafting bearings out of line, bent shafting and tight bearings will all add to the load that the engine or motor have to carry. Pulleys out of line will cause the belts to come off when a load is put on.

8—Loose pulleys cause more trouble than anything, as the tendency is to forget lubrication, the pulley cuts onto the shaft and trouble ensues. The bearing is then cut out and the loose pulley is wobbly on the shaft, and this causes more trouble.

9—Appoint somebody to have charge of the shafting and on one certain day every week go over the following points on every belt and shaft in the shop:

Lubricate shaft hanger bearings.  
Lubricate loose pulleys on line shaft and countershafts.

Clean off line shafts with appliance shown in Fig. 5 and apply oil.

Clean off pulleys.

Clean off belts.

Apply belt dressing.

Inspect belt lacing and renew any that are getting ready to pull out.

10—An emergency safety switch, such as is shown in Fig. 6, may save considerable damage or may save a life sometime. If the power is from an electric motor, the switches should be large enough to carry the full current without heating. If a gas or gasoline engine is used, the switches are smaller, as they

only carry the ignition current, but the wire should be much larger than ordinarily used so as not to cause any resistance to the current. This is assuming that the ignition is by means of batteries and coils or low-tension magneto and coils. If the ignition is by high-tension magneto, it is only necessary for the switch to ground the primary and the wiring and switches may be much smaller. Several of these switches are distributed at convenient places around the shop where they can be readily reached in case of accident. If there is a possibility of their being tampered with, they may be enclosed in glass front boxes so that the glass has to be broken before the switch can be pulled. Wiring diagrams are shown in Figs. 7, 8 and 9.

## SHOOTING TROUBLES

Save your back issues of Motor World because inquiries are frequently answered by reference to a previous issue

### Remagnetizing the Magnets in a Ford

Editor Motor World: Can you remagnetize Ford magnets when they become weak? Please explain how this is done.  
—C. B. Spradley, Camden, S. C.

Answer—There is no way to remagnetize the magnets in a Ford magneto without taking the flywheel out of the engine. The only way that the magnets can be remagnetized is to get them in some position so that they are easily accessible and stroke them with electro magnets, which are simply cores of iron surrounded by a number of turns of insulated wire, through which a current of electricity passes. This current going through the coils strongly magnetizes the iron cores and their magnetism can in turn be given off to the magnets of the Ford magneto.

The Ford Motor Company does not rec-

ommend the use of this device for the reason that it is almost impossible to get the magnets of an equal strength, because every time a magnet is stroked a little bit of magnetism is given to it. Consequently, unless all the magnets are taken off the flywheel and separately tested with weights, it would be pretty hard to get them all alike and the current would fluctuate. A magnet should lift a weight of about 2 lb. when it is strong enough to generate the current required in the Ford magneto.

Another point in this connection is the possibility of reversing the poles of the magnets. Unless the poles of the electromagnets are positively known, the flywheel magnets will be reversed and then no current will be generated. Reversing the current in the coils would reverse the poles of the electromagnets.

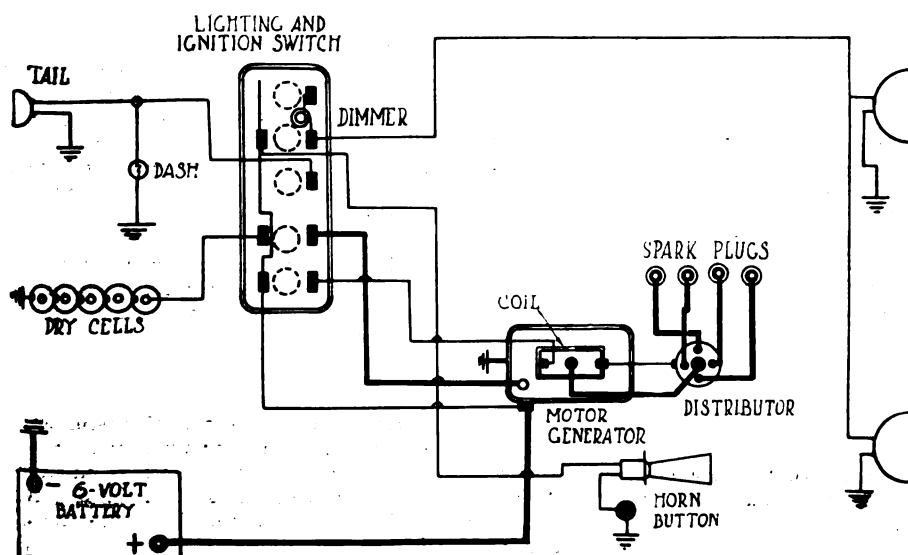
Inasmuch as the flywheel has to be taken out to perform this operation anyway, it will make a very much more satisfactory job to install new magnets, because the cost of this is quite small compared to the cost of the labor of taking the engine apart to get at the flywheel. It is impossible to remagnetize the magnets by sending a current of electricity through the coils of the magneto.—Editor.

### Wiring Diagram of Buick C37

Editor Motor World: May I ask you to print a wiring diagram of the 1915 Model C37 Buick?—James Joseph Fox, Chelmsford Center, Mass.

#### For Another Year

Editor Motor World: Enclosed find check for renewal of our subscription for another year. We find your paper the best all around automobile paper on the market.—Grand Garage, Johnson, Neb.



Wiring diagram of the Buick C37



# Repairshop Shortcuts

*From Motor World Mechanics*

## NO. 2098—GARAGE DOOR OPENER

This is a device for automatically opening a sliding garage door when the car approaches. The inside of the door has a pin on it and a swinging latch drops over the pin to hold the door shut. The door is weighted so that as soon as the latch is pulled up the door opens. The opening of the latch is accomplished by the car passing over a board hinged at one end, the other end being attached to the latch by means of flexible cable and pulleys so that pressing down the board raises the latch.—Longest Bros., Louisville, Ky.

## NO. 2099—VALVE-PLUG WRENCH

A wrench for removing or replacing slotted valve plugs is made from a piece of Shelby tubing about 8 in. long. One end of this fits into the recess in the valve plug and lugs engage the slots. These lugs are made by drilling a 31/64-in. hole close to this end of the tubing and, driving a piece of 1/2-in. cold rolled steel through the hole. The ends are then filed square to fit the slots. Three holes are drilled in the upper end, these being spaced around so that a 3/4-in. bar can be used to pull the tubing around with.—E. J. Geise, Sterling Motor Truck Co. of Illinois, Chicago.

## NO. 2100—PRESSING THE CONE ON THE FORD SPINDLE

The stationary cone is pressed on the Ford front-wheel spindle by using a 4-in. piece of 1 1/4-in. pipe, a washer and the spindle nut. The pipe is placed in front of the cone, the washer over this and the nut started on the spindle threads. Setting up on the nut drives the cone in place evenly, quickly and with no danger of breakage.—J. W. Begeard, Dexter, N. Y.

## NO. 2101—TUBE-BENDING MACHINE

A machine for bending copper tubing to a uniform and even curve without danger of flattening the bend is made with two grooved rollers in a frame. The rollers are of 2-in. cold rolled steel with three grooves turned, these being made for the sizes of tubing most used. A 3/4-in. hole is drilled exactly through the center of one of the rollers and the same size hole is offset 1/4-in. from the center in the other which will be the upper roller. The handle is made of 1 x 3/8-in. strap iron bent into a U-shape to fit the offset roller and is fastened to it with flat head screws. Another handle is made to fit over the first handle and holes drilled for the roller axles so that

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

the space for the tubing will be the right size when the two handles are parallel. To bend the tubing, the lower roller is clamped in a vise, the tubing inserted and the upper roller brought down to clamp the tubing. The top roller is moved around the lower one with the main handle.—A. T. Aton, Ocean Park, Cal.

## NO. 2102—CONTINENTAL ENGINE VALVE-KEY INSERTER

The small horseshoe keys that lock the valve springs on Continental engines are quickly and easily inserted with a tool made from a pair of old scissors. The pointed ends are ground off and small curves are ground in the ends of the blades to fit the keys. The old scissors grip the key to enable it to be inserted and the tool is withdrawn at will.—Frank Thomas, San Francisco, Cal.

## NO. 2103—SAFETY CHAINS FOR ELEVATORS

To prevent accidents from descending elevators a number of 3-ft. lengths of chain are attached to the front edge of the platform. If someone is leaning into

the shaft when the elevator comes down, the chains will hit him first and give him warning so that he can move before the platform hits him.—Charles C. Spreen, Detroit.

## NO. 2104—RUNNING-IN STAND FOR ENGINES

A stand for running in engines after they are assembled is made by mounting the engine rigidly on either a wooden or metal stand and placing two shafting hangers with shafting, pulleys and coupling device in line with the engine shaft. The shaft hangers are inverted and bolted to the floor and sufficient distance is allowed between them to take a tight and loose pulley and a suitable belt-shifting mechanism. Connection of the engine to the shaft is facilitated by equipping the end of the drive shaft with the rear half of the clutch universal.—Packard Motor Car Co. of Boston, Boston.

## NO. 2105—UNIVERSAL BALL-CAP GUIDE FOR FORDS

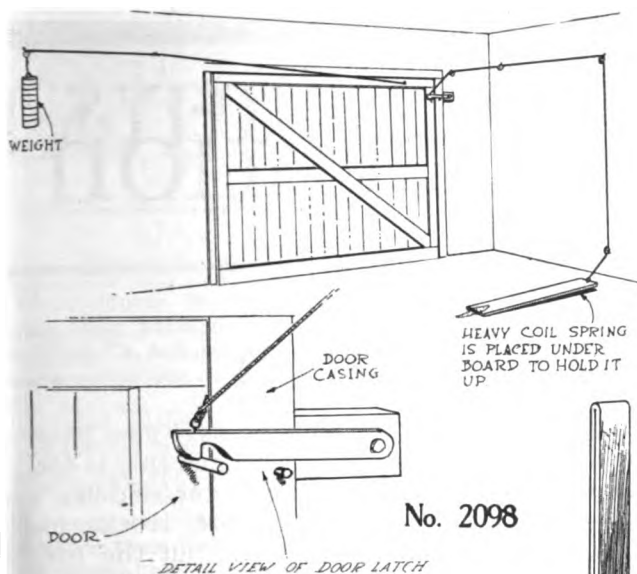
A guide made of galvanized iron to protect the gasket on the Ford universal ball-cap while the engine is being set in place will prevent damage to the gasket and so will prevent oil leaks later. The 24-gage sheet iron is cut to the size of the inner circle of the ball cap gasket and when the engine is lowered into place, the guide is held between the gasket and the rear end of the pan. All the sliding is on the pan and not on the gasket.—H. Edward Mathewson, Scarsdale, N. Y.

## NO. 2106—KEEPING TRACK OF TOOLS

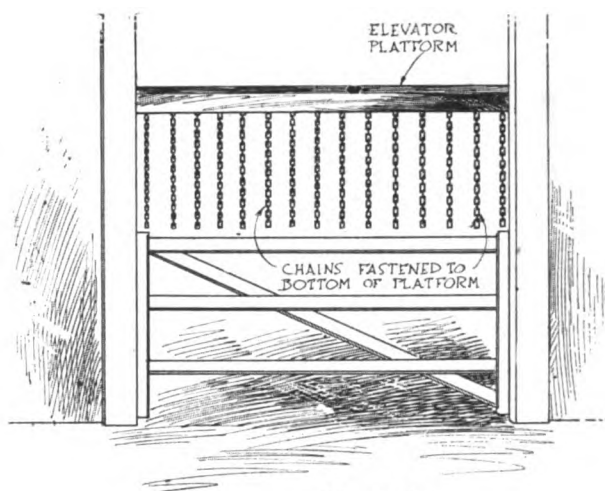
Where the shop is not large enough to have a separate tool room, a large board painted white is used to hang the tools on, there being nails sufficient to hang each and every tool outside the kit that the mechanic carries. The shape of each tool is painted in red exactly where the tool hangs, so that a glance will tell where the tool belongs. A nail under each tool allows the mechanic's check to be hung up when that man has the tool out.—Frank J. Marwood, Pincher Station, Alberta, Canada.

Editor Motor World: Consider this an order to continue the most valuable trade paper we have ever read, until notified otherwise (bill us for 2 years at a time).—Strongloc Rubber Co., Pleasantville, N. Y.

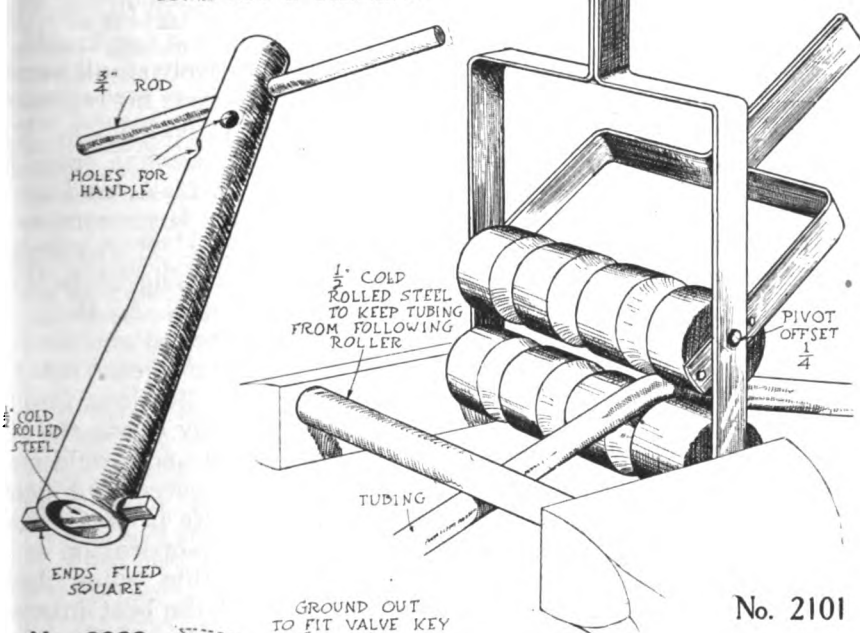




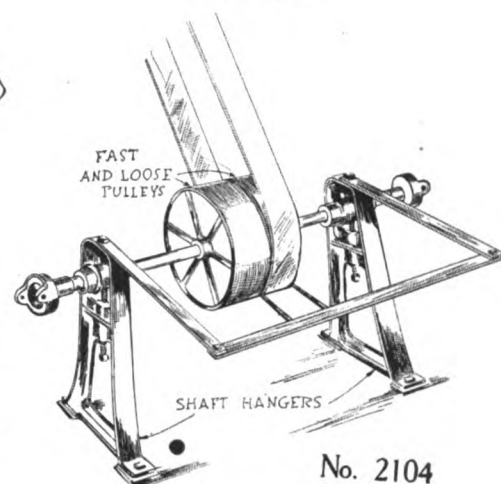
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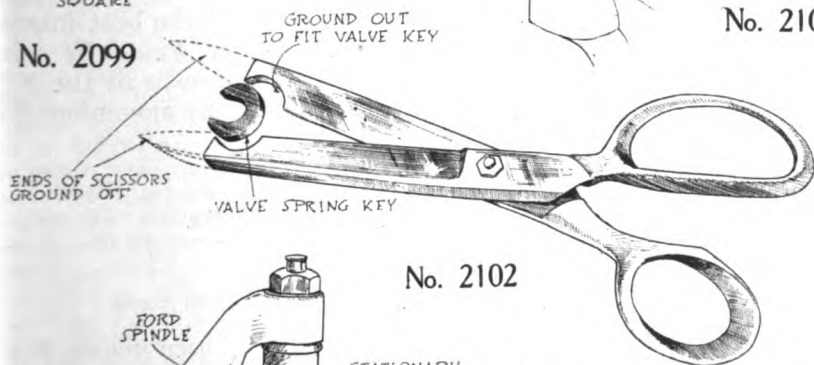
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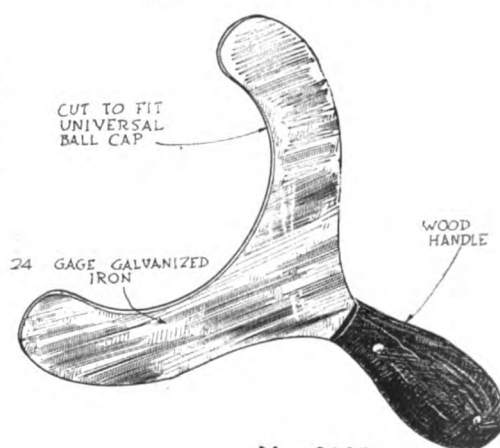
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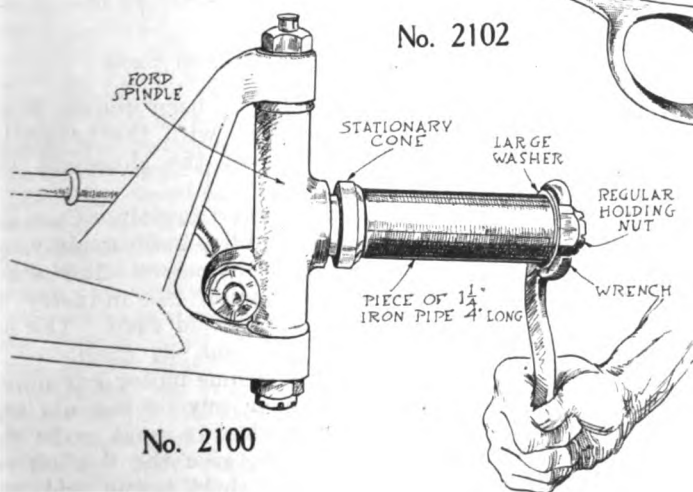
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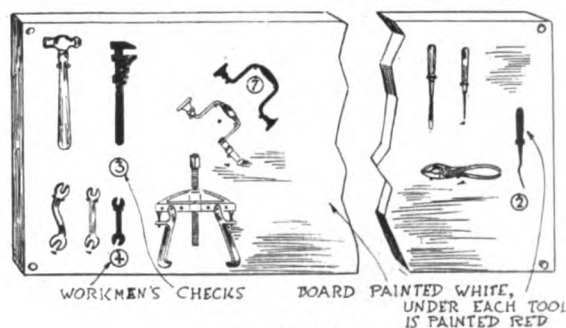
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No. 2105



No. 2100



No. 2106



# Editorial Observation

## One Association Enough

IT has been suggested that there be formed a national association of motor truck dealers for the purpose of doing for truck dealers exclusively what the National Automobile Dealers' Association is doing for dealers generally.

It does not seem that this move would be advisable, in that no end would be served that cannot be served by the N. A. D. A., and an additional association would not help the N. A. D. A., which is nicely under way and should be built to a maximum of strength before there is thought of additional organizations.

The N. A. D. A. is covering the dealer field in an acceptable manner and has rendered wonderful service during the past year or two. It has plans for future work that will make it a still greater necessity to the dealers and which will make it every dealer's duty to support the association. Dealers who do not now belong should get behind it.

One of the ideas of those who favor the organization of the truck dealers by themselves is that trucks are going to be sold by other than passenger car dealers. This idea is hardly correct in all its essentials. Trucks require a more intensive sales effort than cars have required, and, regardless of who sells them, this principle must be recognized. To secure recognition for this idea is doubtless one of the thoughts back of the proposed special organization. Trucks will not be sold in the same department with cars. They will be sold by a separately organized department in the dealers' organization; but most of the trucks that are

sold to-day are sold by men who have also passenger car merchandising organizations, and this is the logical outlook for the commercial motor vehicle.

In some cities, of sufficient size, trucks may be sold by exclusively truck dealers, but the overhead is too great for separate truck dealers in the countless small towns where there is a big field for trucks.

But even if there are a comparatively small number of dealers who sell trucks only, there is no real necessity for a separate truck dealers' organization. Such truck dealer problems as are of national scope are to-day being handled by the N. A. D. A. and are of prime interest to the comparatively large number of dealers who sell both cars and trucks. If any separation is necessary as the truck business develops it can well be handled by a division in the N. A. D. A.

Organization for years has faltered along the path of progress and only within the last year has real progress been made. To inject complications into the situation at this time would probably cause the failure of the truck dealers' association and would make still harder the path of the only successful dealer association that has ever come to life in this trade.

The N. A. D. A. asks and offers co-operation as regards those who have conceived this truck dealer association, and it would seem that the best interests of the entire automotive industry would be served by the centralization of trade interests in the N. A. D. A. with a concerted boost for the movement from the whole industry.

## Short Terms Are Best

IN the newly vitalized tractor industry a few manufacturers have adopted a policy of carrying the dealers who handle their tractors, giving them a long period to pay for the tractors they buy. This is not unlike the consignment system, which is expensive to the manufacturer and is not conducive to business good health for the dealer.

In transactions of this kind short terms are the best, despite the fact that the sight-draft-bill-of-lading system has sometimes worked a hardship on the dealer and has caused him to be bitter against the merchandising and business system of the motor car industry.

There are times, it is true, when short terms are hard to meet, when they make it hard for the dealer to take the cars that are sent to him; but it is also true that the autocratic attitude of some undiplomatic factory manager has been the cause of the trouble rather than the

sight draft system. Managers have been known to ship cars without notifying the dealer, with the result that the dealer has known nothing of the shipment until notified by the local bank.

The motor car industry has moved rapidly. Cars have been built rapidly, shipped rapidly, sold rapidly, and paid for rapidly by dealers and customers. It has been necessary that the terms be short if the industry was not to get its feet tangled in its rapid race. The only sure way has been to work fast and pay cash.

If the tractor industry is to assume motor car proportions it cannot take a chance on any of the old long-term systems of the tractor trade. It must make good tractors, build them in quantity, give the dealers real merchandising co-operation, use short terms and teach any dealers who haven't already learned the lesson that success lies in cash or its equivalent.



# LETTERS *from* READERS

## Truck Sales Letters

Editor Motor World: We have recently been appointed distributors for the White Co. and desire a letter to prospective customers advising them of that fact.

We also desire a letter to present White owners in this territory informing them of our appointment and advising them that we have a well equipped shop and a competent shop superintendent to look after their wants.

We have been a subscriber to your magazine for the past two or three years and have gradually eliminated all other publications, as we have found that your magazine was so thoroughly good that it was unnecessary for us to take any other magazine.—City Hall Garage, Paterson, N. J.

Answer—Herewith are two letters, one to go to prospective buyers of trucks and the other to go to the owners of White trucks in your territory.

You suggest listing the different models of White trucks in your letter to go to prospects, but we believe a much better idea is to write the letter and attach literature describing whatever trucks you want to bring before the prospect. To put all the information in a letter, we believe would make the letter so long that the prospect might not read any of it, whereas if the letter is short it doubtless will be read and the literature will be much more instructive and easily read than it would be if otherwise presented.

One of the most effective documents you have is a double-page spread showing the lists of customers who have bought additional White trucks. This includes the Standard Oil Co. and a number of other large corporations which are using large numbers of Whites. If you haven't that piece of literature, we suggest that you get it, because we believe it will be very effective in making sales.

## Truck Sales Letter

Your interest in the motor truck as a time and labor-saving machine for your business has doubtless caused you to be more or less familiar with the White.

You may therefore be interested in knowing that the City Hall Garage has been appointed the distributor of the White line of trucks in this section.

Fitting in well with this fine line of trucks, we have one of the best shops in New Jersey, with a superintendent whose ability means much to users of White trucks. All in all, we believe our relations with White users will be pleasant to both parties.

Whatever your business, there is a White truck that meets your needs and that will prove a good investment to you. Will you carefully look over the enclosed literature?

*WHEN asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues.*

There are mileage facts about Whites that would sound preposterous were we to set them down here without the opportunity of showing you the proofs at the same time. May we not soon have the opportunity of telling you what a small amount per mile it costs to use a truck?

## Truck Owner's Letter

As the owner of a White truck, you will be interested in learning that this line of motor vehicles is now represented in this city by the City Hall Garage.

We also want to add that we have one of the best shops in New Jersey, with a superintendent whose ability will, we are sure, mean a lot to you in the future.

We believe our equipment, coupled with the White line, will cause our relations with you to be very pleasant indeed and highly satisfactory to you.

Drop in as soon as you can and get acquainted with us and our superintendent, Mr. J. C. Jones.

## That Tax

Editor Motor World: Your article on page 10 of the March 26 issue of the Motor World is fine and very much to the point. Next to the last paragraph you say if a dealer buys a chassis in one place and a body in another he is not a

manufacturer. Will say we have already paid quite a bit of tax under just these conditions and we seem to recall a former article of yours to the effect that the dealers in Boston were having to pay back tax on assembled jobs. If you have any definite ruling on this proposition, we certainly would be glad to have a copy of it in order that we may know exactly where we stand.—The Wilmington Auto Co., Wilmington, Ohio, dealers in Ford Cars.

Answer—Under the former tax law a dealer who bought a body and put it on a chassis was considered a manufacturer and was required to pay a tax on the completed vehicle, less any tax that had been paid by the manufacturer on the chassis. Under the new law the tax is collected from the manufacturer of the chassis and from the manufacturer of the body, and the dealer is not required to pay a tax. The taxes you mention as having paid in your letter of April 1 doubtless were paid under the old law, which law caught a great many dealers and involved some of them in serious penalty difficulties.

## Not a Manufacturer

Editor Motor World: In Motor World of March 26, on page 10, you state that the dealer who buys a chassis at one source and the body at another is not a manufacturer and is not obliged to report or pay tax to the government, but only such taxes as are passed on to him, which he in turn passes on to the buyer.

We would thank you to advise us what authority you are using as the foundation for this statement, as we have a local ruling which classes us as manufacturers when we have bodies mounted on our chassis which we sell at retail.

They state further here that the body manufacturer reports and pays a tax to the government only on such transactions as are retail.

Thanking you in advance.—The Commercial Motor Sales Co., Cincinnati.

Answer—Can it be possible that the situation mentioned in your letter of April 12 pertains to the war tax that was in effect before the present taxes became effective the latter part of February?

Under the old ruling it was held that a dealer became a manufacturer when he added a body to a chassis, but under the new law the tax is levied on the manufacturer of the body and on the manufacturer of the chassis, and the dealer is not taxed, he being expected to pass along only such taxes as are passed to him by the manufacturer. This information is given to us by the Revenue Department, and they are very explicit on that point.

## INFORMATION WANTED

**W**ILL readers of Motor World please send us the following information:

What percentage of your total volume of business is your expenditure for advertising?

By "advertising," state whether you mean newspaper space only or include other expense. If there are several kinds, please state what.

If any reader cares to open a discussion on this page on this subject his letter will be welcome.



## Got Newspaper Support

Editor Motor World: I am inclosing a reprint from an editorial in the *Houston Post* of March 29, with reference to the Texas Automobile Dealers' Association, which I wanted you to be sure to see.

Assuring you that the dealers in Texas appreciate Motor World and what it stands for in the automobile industry, I am sincerely yours, Texas Automobile Dealers' Association, H. L. Robertson, president.

### What the Newspaper Said

Typical of an industry that within two decades has grown to be the third largest in the country, the members of the Texas Automobile Dealers' Association, who have just concluded their annual convention in Houston, proved to be a body of as progressive, optimistic and forward looking business men as ever gathered in this city for any purpose.

The policy of the organization, as outlined in their discussions and official acts, was constructive and aggressive in every detail, and they evidenced a broad interest in the general upbuilding of the commercial and agricultural interests, recognizing that the future of their business is bound up with the future of industry and agriculture generally in this country.

Essentially a progressive industry, the life of the country has already been profoundly influenced by the automobile, and it is destined to be affected even more deeply within the next few years, for the automobile is revolutionizing both business and social life in town and country.

In the development of farm life and bringing of town and country closer together by means of better transportation facilities, the good roads movement stands out pre-eminent, and as advocates of good roads the automobile interests have been in the front rank from the beginning. Resolutions indorsing the good roads movement as advanced by the National Highways Association were adopted at the Houston meeting, and every dealer will exercise a helpful influence in his community for bringing about the building and maintenance of good roads.

In fostering the good roads movement the automobile dealers are lending strength to a movement that will bring incalculable benefits, financial, social and educational, to rural communities—a movement which can only be compared with the rise of the automobile itself in its power to revolutionize and improve conditions of life in the country. Good roads and automobiles go together. Each loses much of its usefulness without the other.

The automobile dealers of Texas are playing a big part in the building up of the State. The influence of such a clean, progressive organization is to be welcomed in the work of making Texas an ideal State in which to live. —Reprint from *Houston Post* Editorial, March 29.

## Ad for Car-Oiling Specialist

Editor Motor World: Have just purchased the equipment of the North Side Garage and am installing trestles and pits. I intend to call the place "North Side Oiling Docks," making a specialty of oiling chassis, etc. This is something entirely new in this town, so it must be well advertised at the start.

Would like you to arrange an ad that can be used either as a letter or printed

on cards of about postcard size, that can be mailed or distributed in cars. This ad should be arranged so as to call the motor car owner's attention to the parts he has neglected oiling, such as springs, brake-rods, shackle bolts, etc. I will pay particular attention to transmissions and differentials.

Will also recommend filling oil base with a good quality of new oil at this particular time (the beginning of the season), which I will have on sale. All work will be personally instructed.

This ad should be so arranged that it will be of interest to the reader, and carefully read before being thrown away. My slogan is "We take out the squeaks."—Arthur P. Shultz, 813 Michigan Street, Toledo, Ohio.

Answer—As copy for the advertisement or circular you want, we suggest the following:

### TAKE THE SQUEAKS OUT OF YOUR CAR

Squeaks develop in your car because it is difficult and dirty to keep the cars oiled and greased. Our specialty is taking out the squeaks. We lubricate the springs, brake-rods, shackle bolts and other parts, with special attention to transmission and differential. Let us put your car in good condition NOW so you can get

### ENJOYMENT FROM SUMMER DRIVING

We have special equipment that enables us to do this work in the shortest possible time. It is a good investment. It prevents wear and repairs.

### NORTH SIDE OILING DOCKS.

We have not said anything in this copy about recommending oil for the base of the motor, because that is just one more thing the customer will have to pay for, and we believe you will get best results if you first get his confidence on the oiling proposition and then recommend the oil personally after he has come to you.

## More Tax Data

Editor Motor World: Regarding your answer to L. C. Bell of the Bell Motor Co., pertaining to war tax, I do not think you quite caught the point to the question. I think he is asking about the ruling of the Internal Revenue Department in such cases. We had a shipment arrive at just about the same time as his, which was prior to Feb. 25, and we did not take up the bill of lading until March 4, on account of the weather, and the Ford Motor Co. wrote us that the Department had ruled that we must pay the 5 per cent rate in such cases. This seems like a reasonable ruling, for I believe the title does not pass until the sight draft is paid, while with ordinary accessories the title passes when delivered to the railroad company, if shipped on open account. Some jobbers are charging 4 per

cent war tax on everything shipped since Feb. 25, while others advertise to ship tax free during April.—F. B. Ivine, Northwestern Motor Co., Linton, N. D.

Answer—Perhaps we did miss the point in our answer to Mr. L. C. Bell. As you state, the ruling passed on to you by the Ford Motor Co. seems reasonable. Our opinion is that most of the rulings will be made as outlined in your letter of April 9.

## Automobile Dealers' Clearing House

Editor Motor World: Will you kindly inform me if you know of any automobile dealers' clearing houses and details of same, and if successful?

Long Beach automobile dealers are trying to solve the used-car problem, and are just organizing. We want to place the business on a higher plane. We want to put our used cars in good condition, probably guaranteeing them for 30 days, and want to make money on them. We are entitled to it.

Any information you can give me along these lines will be greatly appreciated.—Frank C. Lawler, dealer in Maxwell cars, Long Beach, Cal.

Answer—Probably the best strictly dealer association exchange such as you have in mind is in operation in Grand Rapids. If you will address a letter to the Automobile Business Association of Grand Rapids at the Hotel Pantlind, it will give you all details about it.

Quite a long time ago we had a story in Motor World about it. Briefly, they operate as follows: The association maintains an appraiser. When a car owner wishes to trade his car, he is directed to go to this association and have an appraisal price put on it. The appraiser checks the car over for mechanical condition, determines how much will have to be spent on it to put it in salable condition, and also estimates what the car will bring after it is put in shape. From this possible resale price he deducts the estimated repair cost and the dealer's profit and gives the car owner a card, which is a certificate as to the valuation of the car, good for ten days. Dealers require the car owners to show these certificates before they will take cars in trade.

The dealers depend upon their cooperation to hold one another to these certificate prices, although it is generally understood that a dealer in any particular can afford to allow a little more for one of his own cars than he can for another make, and invariably he can get more for this same car when he resells it.

There is also a used-car exchange in Troy, N. Y., which is a corporation in which the dealers hold stock, and which disposes of used cars in a central market. It is operating successfully. Most dealers seem to prefer the Grand Rapids idea, because in the last analysis it is better for a dealer to keep his used-car business within his own place of business, and this can be done under the Grand Rapids idea. However, any plan that solves this problem is good.



# SCIENTIFIC CONSTRUCTION

GARAGES

SHOWROOMS

REPAIRSHOPS

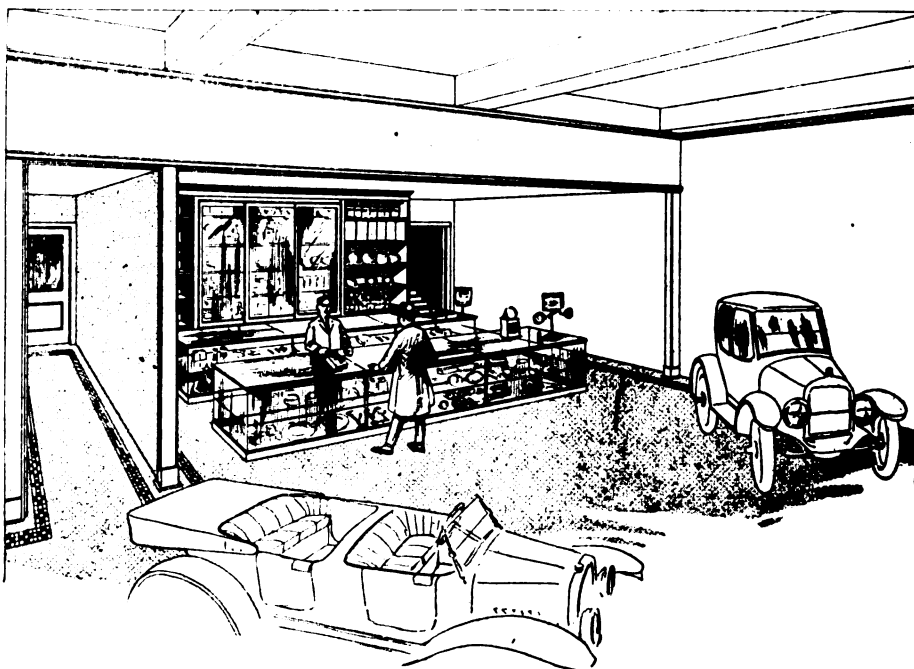
We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

## These Plans Are Better

Editor Motor World: I am enclosing a sketch of our property located on South Main Street in this city. This shows the building as we propose to rebuild and improve it, and its relation to the surrounding property.

The main part of our lot is 35 x 210 ft. We realize that this is too narrow, but we have occupied this same building for about 16 years, so we hesitate to change our location. Then, too, as our business consists of car sales, accessories sales and service work, and not of a general garage business, we believe we can make this building do.

You will note that the building is divided into four sections. There is an old two-story brick, 35 x 60 ft. This we propose to remodel by putting in a new front and a driveway at the north side. There is also a frame building 35 x 90 ft. This will be torn down and rebuilt for use as the garage. We have not decided whether to build it one or two stories high. By making it two floors we would have to put in a hand elevator and use this for new car storage, paint shop, etc. However, an opening would be necessary for a skylight to provide light to the stockroom and to the office through the large window. A new one-story shop, 35 x 60 ft., was built last year and is now in use. The present entrance to this is from the alley. The east end is all glass. There are eight windows on the north side and a skylight over the part where we expect to install our machinery. So you see we



Here is a good layout for an accessory showcase. It is conspicuous and at the same time agreeable to the eye, and the articles for sale are inviting to the customer

have plenty of light. We also own a small piece of ground, on which we will build an addition to our shop, 40 x 43 ft.

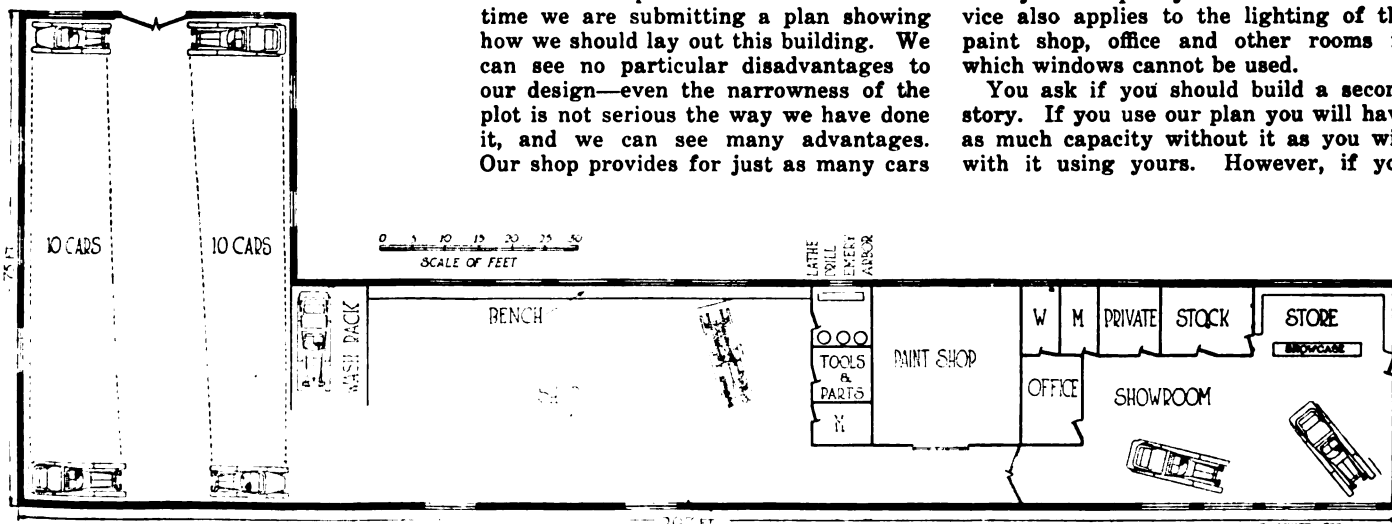
When completed we will have a showroom 23 x 45 ft., stockroom, garage, washrack and repairshop.—C. A. White & Son, Delaware, Ohio.

Answer—If you feel that you must have a front entrance for cars, then we are quite sure that your present design cannot be improved on. At the same time we are submitting a plan showing how we should lay out this building. We can see no particular disadvantages to our design—even the narrowness of the plot is not serious the way we have done it, and we can see many advantages. Our shop provides for just as many cars

as yours does; our garage space provides for twice as many cars as yours; our showroom is as large as you require; we have found room for an accessory store and stockroom—very, very necessary features.

The shop can be adequately lighted by free use of skylights. Skylights are every bit as good as, and in some respects better than, windows; but be sure that you use plenty of them. This advice also applies to the lighting of the paint shop, office and other rooms in which windows cannot be used.

You ask if you should build a second story. If you use our plan you will have as much capacity without it as you will with it using yours. However, if you



This plan calls for a lot 207 ft. long and 75 ft. wide at the rear, where the cars are stored. The front part is narrower



prefer your plan and feel that you must have the extra space that the second story will afford, then there is nothing to do but to build it, even though by so doing you cut off some of the lower rooms from the skylight illumination which you were planning.

If you adopt our plan, we suggest that in storing cars in the garage space you place the longest car opposite the shortest one, as indicated by the sloping lines. This will give you a maximum of aisle space. This space is not very much for the storage of two rows of cars, but it is sufficient, especially when the cars will not be moved as frequently as in a public garage.

It is realized that moving a car in or out of the paintshop requires a rather sharp turn, and it is intended that some form of turning jack be used in the maneuver. If you object to this, place the shop toilet some place else and use an entrance somewhat as you have indicated on your showroom plan.

You will appreciate that your plan and our plan may be used in various combinations which might suit you better than our plan as it stands. We strongly advise you, however, to use our plan just as it stands, as we believe it is quite the best for the purpose.

### An L-Shaped Building

Editor Motor World: I am enclosing a ground plot for an L-shaped garage, the repairshop of which is to be on the second floor of the rear building.

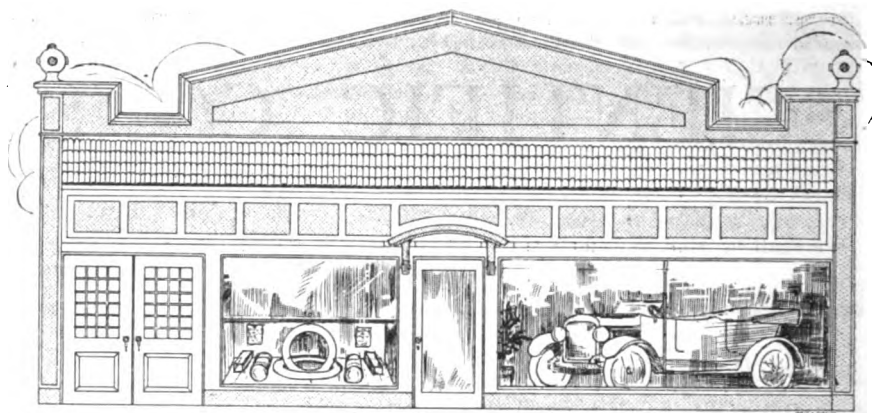
We wish to include in the ground floor storage, washrack, accessory room, office, private office, toilet, etc. The second floor will cover the rear building only, covering a space 112 x 48 ft., in which space we wish to have a repair and machine shop, battery room, vulcanizing shop, etc.

We also wish to have locker space on the first floor, as we have quite a large transient trade, being the official garage for the Hotel Penn.—Hotel Penn Garage, York, Pa.

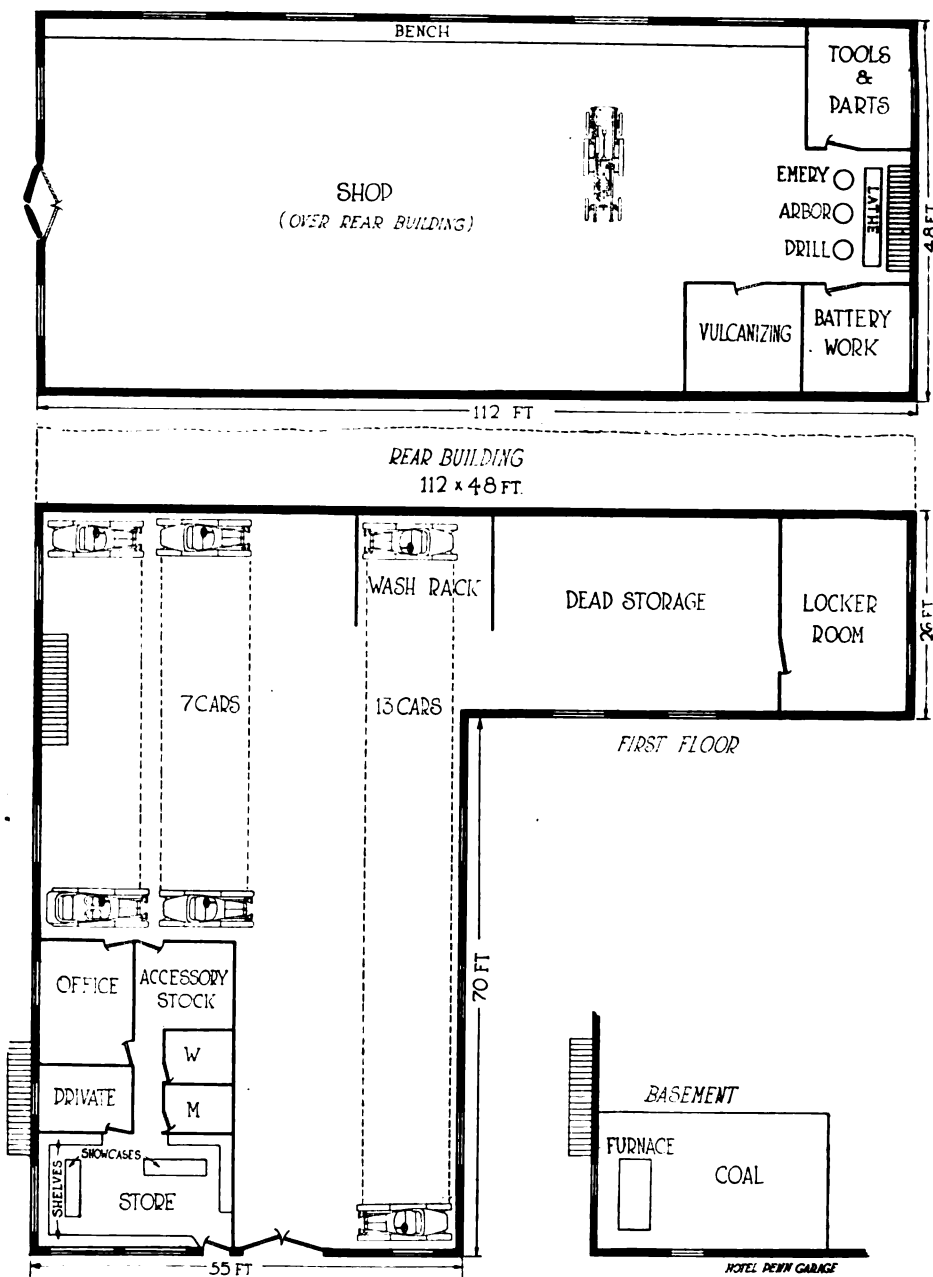
Answer—Herewith is a plan drawn according to your request. We could give you a much more satisfactory layout for this particular plot by placing the shop on the first floor and using the whole of the second floor for a garage, and we shall be glad to do this if you so desire.

### THAT WINDOW DISPLAY

A window display is a necessity, but it must be looked after as carefully as a drygoods store window downtown. Take a glance at mine. It is changed every week. If you are out to buy a loaf of bread and come to a bakery where the window in a mixture of bread, flies and dirt, you pass on to one where the window is clean. The same rule is just as important in our line.—J. W. Prather, parts manager, Maxwell, Chalmers and Winton, Kansas City.



*This is an attractive front, providing a car entrance at the side and an entrance to the showroom at the center. This lends itself well to a good display without interference from the service department*



*An L-shaped building on a lot 55 ft. wide at the front. The shop is built over the rear building*



# The RETAIL NEWS

## New Truck and Tractor Dealers

The Zeahringer & Owen Co., Muscatine, Iowa, will open two Dort truck sales agencies, one in Muscatine and one in Davenport.

The Aubry Motor Co., Perry, Iowa, will distribute Bethlehem trucks.

The Stevens Corp., Sioux Falls, S. Dak., has been organized by Walter E. Stevens with a capital of \$2,000,000 and will take over the territory allotted to the W. E. Stevens Co. for the distribution of the Republic truck.

The Parsons Motor Corp., Atlanta, Ga., Southeastern distributor of the Stewart truck, recently closed a deal whereby the Southern States Electric Co., Birmingham, Ala., becomes the northern Alabama representative of the Stewart. The latter concern has also just recently acquired the agency in this territory for the Cleveland tractor.

The J. W. Goldsmith-Grant Co., Atlanta, Ga., handling the Hudson and Republic trucks, has opened a new place in Chattanooga, under the name of Marshall Automobile Co., which also will handle the Hudson and the Essex. Reese Marshall, who for a number of years was with the Goldsmith-Grant company, has been placed in charge.

Charles Graves, Des Moines, representing the Consigny Motor Truck Co., has opened a truck sales agency at Estherville, Iowa.

Boulevard Auto Co., Grand Rapids, Mich., has secured the western Michigan distribution agency for Napoleon trucks, manufactured by the Napoleon Motor Co., Traverse City, Mich.

The Ideal Motor Sales Co., St. Louis, is introducing the Cleveland tractor with a series of demonstrations in and near the city.

Arthur C. Brenckle, president Olympian Car Co., 180 Fifth Street, Milwaukee, distributor of the Olympian in Wisconsin and upper Michigan, has been appointed also dis-

tributor of the Denby truck in the same territory.

The Bethlehem Motor Sales Co. has been organized to sell the Bethlehem trucks in St. Louis. George A. Blistain and E. A. Longgood are the organizers.

T. G. Young Co., Seattle, formerly Mack distributor, has taken the agency for the Service motor trucks and Troy trailers and the Duplex 4-wheel drive truck. Temporary quarters have been established at 1512 Eighth Avenue.

Frank M. Foster, Detroit, has taken on the local distribution agency for the Oldsmobile Economy truck.

The Auto Truck Service Co., Milwaukee, has been appointed distributor for the Standard motor truck in the Wisconsin territory.

Taylor's Motor Car Co., Portland, has taken the agency for the D-E truck in Oregon.

The Mitchell, Lewis & Staver Co., Portland, will distribute the All-American truck for Oregon and Washington.

R. M. Purdy, C. V. Reser and F. M. Bau-sluagh, Tulsa, Okla., have organized the Purdy Motor Corp., an exclusive truck organization, handling the Bethlehem truck.

### New Affordable Motor Truck Dealers

Affordable Truck Sales Co., San Francisco; L. H. Sacket, Los Angeles; Affordable Truck Sales Co. of Kansas City; Affordable Truck Sales Co., Chicago; Tractor Distributing Co., Albany; H. R. Larcombe, Wildwood, N. J.; S. J. Davis, Dallas, Tex.; Saskatchewan Sales Agency, Regina, Canada; Mel Stringer, Forty-sixth Street Garage, Cleveland; N. Brown, Atlantic, Iowa; F. B. Kline, Norton, Ga.; C. B. Clark, North Loup, Neb.; Mission Mercantile Co., Mission, Tex.; Davisburg Garage, Davisburg, Mich.; Mansfield Mercantile Co., Winnebago, Neb.; Peters & Olson, Wausa, Neb.

## Among Dealers, Repairshops and Garagemen

### NORTHWEST

D. H. Kuhlman, Fort Dodge, Iowa, has opened a sales agency there for Cole and Chandler cars and will handle eighteen Iowa counties.

George Hernan, Sheldahl, Iowa, has sold his interest in the Sheldahl Auto Co. to Richard Hedlund.

Looker Bros. & Bateman, Sioux City, Iowa, have purchased the A. M. Wall Garage at Mason City, Iowa.

Fred Parcell, Des Moines, has bought the Gilbert Garage, Gilbert, Iowa.

Orvis Lovrien, Humbolt, Iowa, has sold out to his partner, A. L. Conwell.

The Automobile Exchange, Waterloo, has been incorporated with a capital stock of \$25,000. F. A. Holmes is secretary.

T. A. Rake, Rake, Iowa, has sold a half interest in his business to Oscar Quann.

Estes Bros. & Co., Cedar Rapids, Iowa, have bought the John Barnett Garage building and will move to 112 South First Street, West.

C. A. Phillips, Carroll, Iowa, has bought the Carroll Tire Co. from W. J. Roden and changed the name to the Rite Way Tire Repair Co.

Walter A. Carter, Hampton, Iowa, has purchased the interests of his partner, L. G. Thomas, and will conduct the business in the future.

E. J. and R. G. Sleh, Sioux City, Iowa, have formed the Sleh Tires Sales Co. and will distribute the General tire.

The Rudisill-Skinner-Smith Co., Boise, Idaho, is the name of a new concern which will distribute Allen cars and deal in tires.

Robert E. Grundemeyer, Spirit Lake, Iowa, has bought an interest in the Harry T. Lyman motor car sales agency and the firm will now be known as the Lyman-Grundemeyer Auto Co.

Hinmon & Funk, Nashua, Iowa, have opened the Loos Garage.

A. H. Watson, Rock Rapids, Iowa, has retired from the motor car business and will be succeeded by the Bulck Auto Co.

The Zeahringer Garage, Muscatine, Iowa, has been purchased by H. J. Lewis, C. H. Griffin and J. H. Wickey.

Ed. and John Hogan, Marengo, Iowa, have purchased the River to River Garage there.

The Overland Garage, Dyersville, Iowa, has moved into new and larger quarters.

T. Jongeward, Sheldon, Iowa, has purchased the C. E. Rowe Garage at Matlock, Iowa.

Crue & Kries, Terill, Iowa, have dissolved partnership and the business will be continued by Mr. Crue.

The Clinton-Oakland Co., Clinton, Iowa, has been formed by L. F. Schroeder and George Rice and opened salesrooms at 515 Second Street.

D. C. Nicholson, Boone, Iowa, has bought an interest in the Crary Motor Co.

G. Green, Elliott, Iowa, has sold his interest in the Kirk-Green Auto Co. to J. M. Gunston, Griswold, Iowa.

Oscar Ghere and Elmer Turner, Marshalltown, Iowa, have bought the Marsh Garage, 15 West State Street.

Roy S. Grennell, Glenwood, Iowa, has bought the repair business of the Grennell & Hulley Garage.

L. E. Harrison, Nashua, Iowa, has sold the Ford Garage to C. F. Patterson of Parkersburg.

The Midwest Motor Co., Davenport, has incorporated with a capital stock of \$200,000. Charles B. Kaufman is president and treasurer and Paul Riessen of Stockton, Iowa, secretary.

The Sixth Street Garage, Boone, Iowa, has been sold to J. V. Carlson.

Harold Travis, Cedar Rapids, Iowa, has bought the Eighth Street Garage from Fisher Brothers.

John Eichen, Kellogg, Minn., bought the new garage of Phillips Bros.

E. J. Zenke and A. M. Speltz, Rollingstone, Minn., bought the Kimmel & Meyers Garage.

Hiltner & Nenti, Melrose, Minn., have succeeded Wells & Hiltner, H. B. Wells selling to John Nenti his interest in the garage firm.

Charles Bramer, Harmony, Minn., leased his garage to Cunningham & Rice, Cresco, Iowa.

Meline Bros., Lindstrom, Minn., moved their garage to Shafer, Minn.

Palm & Moberg, Murdock, Minn., dissolved partnership in the garage business, Axel Palm continuing.

R. C. Raines, Mitchell, S. D., bought an interest in the Rozum Motor Co. Garage and will be manager.

J. H. Bartle, Valley Springs, S. D., bought the L. C. Christenson Garage.

The Graehl-Roberts Co., Butte, Mont., has incorporated at \$40,000 to carry on an automobile business.

W. N. Jones, Havelock, N. D., bought the Havelock Garage and will move it to Main Street.

J. W. Movius, F. B. Ingstad and G. W. Movius, Fullerton, N. D., as the Oakes Auto & Machine Co., have bought the J. B. Gronbeck business.

William Stieley, Rolla, N. D., bought a half interest in the Rolla Garage.

Matt Johnson, Pierpont, S. D., bought the L. J. Case interest in the Pierpont Garage.

Moran Bros., Emery, S. D., bought the H. Cassen Garage business.

J. W. Mendenhall and Patrick Bakke, Hardin, Mont., have leased the W. O. Lee Garage.

Samuel Grossman, Glasgow, Mont., bought the interest of Miss Belle Grossman in the Grossman Motor Co.

Stuart Bros., Helena, Mont., bought the Walker Garage, 11 North Davis Street.

John Jones, Ryder, N. D., bought a half interest in the Jones Auto Co.

J. L. Ketten, Detroit, Minn., has bought the interest of his partner, Oscar Hammer, in the Detroit Motor Co.

The Awrey Garage, Hawley, Minn., has been sold to Asensee Bros., Oriska, N. D.

The Letford Garage, Bemidji, Minn., has been sold to F. H. Goughnour, Detroit.



L. J. Alberts, Deerwood, Minn., will move his garage to Ironwood.

J. E. Blom and C. A. Olson, Ironton, Minn., bought the Ironton Garage from P. D. Kreitter and will install repair machinery.

Hervey Bros., Chatfield, Minn., sold their garage and Buick agency to the Case Auto Co., Rochester, Minn.

Northern States Motors, Inc., 1609 Hennepin Avenue, Minneapolis, will distribute the Auburn car.

A. L. Fenton, Alden, Minn., bought the Dann Hall Garage.

E. C. Dudley, Pine City, Minn., has bought all the interests in the Dudley Battery Service.

R. M. McGlashan, Motley, Minn., bought the C. W. Akin Garage.

Hughes & Gildemeister, Grand Rapids, Minn., bought the Al Wellein Mutual Garage. H. J. Biehner & Son, Wells, Minn., have taken over the Behrnes & Carney Garage.

Andrew Moe and Oled Brandt, Ruthton, Minn., have bought the Ford Garage.

J. K. Johnson, Cogswell, N. D., has bought the Bullis Garage.

Movius & Ingstad, Oakes, N. D., have leased the Weston Garage and will handle the Overland car.

Thomas Williamson, Nortonville, N. D., has bought the local garage.

A. H. Johnson, La Moure, N. D., has bought the Herman Goehl interest in the La Moure Garage.

Anton Berger and Lewis Schnacherer, Richardton, N. D., have sold their interest in the Richardton Motor Co. to S. Hoffman, member of the firm.

M. H. Johnson, Montpelier, N. D., has bought the Gilbertson interest in the Montpelier Garage.

L. S. Handy, A. H. Slettum and M. A. Slettum, Underwood, N. D., dissolved partnership in the Handy Garage.

Ostreim & Long, Wimbledon, N. D., dissolved partnership and Joseph Ostreim will continue the garage.

Spaulding & Harrison, Fargo, N. D., sold the Fargo Motor Sales Co. to J. J. White, Cogswell, N. D., who has changed the name to White Motor Sales Co. The company sells Fords and maintains a garage.

Blimm & Ronning, Sherman, S. D., bought Motor Inn from Harold Hanson.

#### SOUTH

The Charles W. Tway Co., Atlanta, Ga., has become distributor for Atlanta and vicinity of the Atlanta-built Hudson Six. This car has had considerable sale in the South and the institution backing it is owned and operated by Southern business men.

C. H. Rice Motor Car Co., Wheeling, W. Va., will open at the corner of Twentieth and Market Streets. The company will deal in repair cars, trucks and machinery.

The Fred G. Joyce Automobile Co.'s place at Chattanooga was damaged to the extent of \$100,000 recently by fire. Joyce is one of the pioneer dealers of the South and immediately opened up temporary quarters.

#### SOUTHWEST

The Gillette Tire Co. of Chicago has opened a branch in St. Louis. A. L. Martin, secretary-treasurer of the company, is in charge.

The Franklin-Ross Motor Car Co. has opened a salesroom at 2818 Locust Street, St. Louis, to sell the Franklin car. A. G. Ross, the organizer of the company, has been with the Franklin distribution in Chicago for four years.

The Gebhardt-Frizzell Auto Repair Co. has been opened at 3888 Windsor Place, St. Louis. The company will specialize on Knight motor and electrical work.

Holman Johnson, for years manager of a salesroom service station, has opened the Plymouth Garage at Plymouth and Hamilton Avenues, St. Louis.

The Exide Depots, Inc., has leased 3408 Lindell Boulevard, St. Louis, for a service station. The premises contain a 40-ft. front building and a 40-ft. front vacant lot which will be used for service.

#### PACIFIC COAST

Frank A. Rivers Co., 1928 Westlake Avenue, Seattle, has opened a new tire rebuilding establishment.

George W. Miller Co., Seattle, is making alterations at its used-parts salesroom at 715 East Pine Street that will give 10,000 additional square feet of floor space.

A. F. Blangy has purchased the business of W. Copek, authorized Ford dealer, at 702 Broadway, Tacoma, Wash. The name of the firm will be Blangy Motor Co.

W. S. Folger, formerly of San Francisco, has opened a tire shop on University Avenue, Berkeley, Cal.

The Service Garage at Galt, Cal., has been opened with equipment for repairs and vulcanizing.

W. V. Fisk has opened a tire and accessory department at 647 Higuera Street, San Luis Obispo, Cal.

Hunter & Pligden have opened the Mission Repair Shop & Accessory Co. at 1207 Valencia Street, San Francisco.

E. J. Hagensen and Norman Reed, as co-partners, have purchased the Owl Garage at 1210 Valencia Street, San Francisco.

The Casler-Fremayne Tire Co., manufacturer of Casler Double Strength tires, has opened retail salesrooms and a manufacturing plant at 1695 Market Street, San Francisco.

A. J. Rose, proprietor of the Mission Garage, Valencia and Twenty-sixth Streets, San Francisco, has added a taxi department.

The Exposition Auto Supply Co., J. Rutishuser, manager, has opened a store at Twenty-first and Valencia Streets, San Francisco, with a stock of tires and accessories.

The Hill-Smith Metal Goods Co., Boston, manufacturer of Minute Demountable wheels for Fords, has opened a Pacific Coast branch in the St. James Hotel Building, on Fulton Street, near Van Ness Avenue, San Francisco, with W. W. Bendell as manager.

The Johnson Tire & Rubber Works, 1225 J Street, Sacramento, have installed a retreading plant.

J. K. Barnett, proprietor of Barnett's Garage at Modesto, Cal., has secured the county agency for Mohawk tires and Zenith carburetors.

The Royer Sales Agency, Manila, Philippine Islands, has been appointed sales agents for the Orient of the Lathan Auto Supply Co. of San Francisco.

C. R. Austin has purchased the garage at 1522 Ninth Street, Modesto, Cal.

J. R. Hosler, formerly manager of Parks Garage at Oakdale, has opened a repairshop in Modesto, Cal., specializing on Fords.

Ray Brown, formerly manager of the Sacramento branch of the Stretchless Inside Tire Co., has opened a tire store and vulcanizing shop at 1213 J Street, Sacramento, and will feature Firestone tires.

The Studebaker Garage at Modesto, Cal., has been purchased by G. W. Warren of Stockton and renamed the Modesto Garage.

The Auto Tire Repair Co., Sacramento, has moved into its new building at 1016 Fourteenth Street.

The Reed Tire Co., Sacramento and Stockton, has opened a branch store at 535 Broadway, Chico, Cal.

The Walker Garage, Hoquaim, Wash., has been purchased by O. F. Gloystein and George Wise.

J. C. Mooney, Ritzville, Wash., has purchased the Peters Garage in that city.

The Baker & Campbell Garage, Marshfield, Ore., was recently destroyed by fire with a loss of \$15,000.

The Franklin-Wicks Co., Seattle, has moved from Twelfth Avenue and East Union Street to temporary quarters at Twelfth and Pine streets. The company plans the construction of a new building during the summer.

The Allison Burner Co., Seattle, recently moved to new headquarters at 304 Pioneer Building.

Peter Henning, Everett, will construct a service station at Colby and California Avenues, to cost about \$3,000.

C. F. Gilbert, Hood River, Ore., will construct a service station in that city.

The McNeff Tractor & Auto Co., Portland, has taken the agency for the Holmes air-cooled six in Oregon.

Sunset Electric Co., Seattle, has opened new quarters at 1509-11 Broadway.

S. E. Martin, of Klamath Falls, and E. L. Hosley, of Merrill, Ore., have purchased the Ford garage and motor car business of George Biehn, Klamath Falls, Ore.

Charles L. Harper, Willard storage battery dealer at Seattle, has taken the Willard agency at Portland. He will continue to handle the Seattle agency.

#### EAST

Rensselaer Vulcanizing Co., 450 Fulton Street, Troy, N. Y., has changed its name to Williams Tire & Rubber Co.

Victory Auto Shop, Latrobe, Pa., has been opened, with James N. McBride as manager, at 1115 Ligonier Street.

H. H. Cable, Beaver, Pa., has bought the garage building of the Snyder-Bonzo-Baker Co., East End Avenue.

Automotive Corp., Pittsburgh, Pa., will handle Mitchell and Apperson cars. Salesrooms and service station have been opened at 5864 Baum Boulevard.

Erie Pann Auto Co., Warren, Pa., has opened a salesroom at the corner of Pennsylvania and Market Streets. It has the agency for the Chandler car in that territory.

W. J. Wernahl, Pitcairn, Pa., has purchased the repair and storage business of the Pitcairn Auto Co., at Wall Avenue and Second Street.

Union Auto Supply Co., Pittsburgh, Pa., has opened new salesrooms for its accessories at 212 Wood Street.

Blair-Radford Motor Co., Meadville, Pa., Crawford County representative for the Dodge car, has opened its salesrooms at 952 Water Street.

#### MIDDLE WEST

L. C. Herman and W. H. Hill, Decatur, Ill., have opened a garage and service station at the corner of Packard and Water Streets to be known as the North Street Garage and Radiator Works. Later, the firm will take the distribution of motor vehicles. Both have been engaged as mechanics with the Mueller Mfg. Co., of Decatur.

William L. Kern, Springfield, Ill., has opened a radiator shop at 204 West Washington Street, and will specialize in radiator repair work.

Glenn and Clarence Triesteam, Springfield, Ill., have opened a tire and accessory store at 105 and 107 South Fourth Street. They were formerly engaged in similar business in Kalamazoo, Mich. They will also do a vulcanizing business.



**E. P. Osgood**, Quincy, Ill., has opened a tire and accessory shop at the corner of Seventh and Main Streets. He will be distributor of the Perfection tires in the Adams County territory.

**B. J. Gibson**, Danville, Ill., has been appointed distributor for the Oakland car in the Vermilion County territory and will have an agency at 8 Jackson Street.

**Frank J. S. Dalzell**, Peoria, Ill., has opened a tire and accessory store at the corner of Main and University Streets.

**H. W. Doenges** and **J. E. Dahmer**, Springfield, Ill., have opened the Economy Tire Works at 869 East Monroe Street. Double tread tires will be manufactured, and a complete line of tires and other accessories will be handled. They will also operate a vulcanizing plant.

**The Garlock Sales Co.**, Lansing, distributor for Overland, Willys-Knight automobiles and Cleveland tractors, has opened for business. The company has chosen the following officers: President, M. D. Garlock; vice-president, John Walsh; secretary and treasurer, H. D. Bennett.

**The Wolverine Sales Co.**, Lansing, Mich., which handles the Studebaker line of automobiles and trucks, is about to build a new garage and sales building. The new structure will have a 66 foot frontage on Capitol Avenue and a depth of 110 ft. It will be two stories high and of brick construction.

**The Pierce-Arrow Automobile Sales Co.**, Akron, has opened a new service and sales station. Besides carrying a complete line of cars and trucks, it has increased its parts department.

**William Simon**, Portsmouth, Ohio, has opened an accessory shop at 905 Gallie Street.

**Curt Hamilton** and **Louis Stevens**, Pomeroy, Ohio, have opened a garage in the Ebersbach Building.

**Kelly Brothers**, Toledo, Ohio, have opened an accessory and used car salesroom at 1116 Broadway.

**City Garage**, Defiance, Ohio, formerly conducted by Harry Campbell, has been sold to Zera Hammon and Leo Hummer. A general garage business and repairshop will be conducted.

**L. F. Gfell**, Norwalk, Ohio, has purchased the tire business of William Gawne on East Main Street.

**H. J. Adams**, Fostoria, Ohio, has purchased the controlling interest in the United States Garage Co. at Toledo, which is one of the distributors of Reo cars.

**Harvey M. and Cal Derr**, Springfield, Ohio, have opened a vulcanizing and tire repairshop at 219 West Main Street. They will be local distributors of Swinehart tires and tubes in Logan, Clark and Champaign counties.

**Palace Tire & Rubber Co.**, Youngstown, Ohio, of which E. H. Mayhew is president, has opened at East Commerce.

**Columbus Tire & Repair Co.**, Columbus, Ohio, doing a general tire and tube repair business, has been sold by S. L. Jones to C. R. Brown and J. C. Geren, who have formed a partnership.

**Edward R. Ormsby**, formerly superintendent of repairshops for the Woods Motor Vehicle Co., has opened an electric service station at 620 Court Street, Ottawa, Ill., giving service to electric cars and trimming work on both electric and gas cars.

**The Ault-Apkin Co.**, Cincinnati, has been organized to handle the Kissel Kar in that city. The new company has taken over the plant formerly occupied by the Western Motor Car Co.

**The Towar-Ayers Motor Co.**, Detroit, distributor for the Denby truck, has acquired the distribution rights for the Olympian-four, made by the Olympian Motor Car Co., Pontiac.

**The Golden Motor Sales Co.**, Grand Rapids, Mich., has added a new paint shop to its garage.

**The Swinehart Tire & Rubber Co.'s** Cincinnati branch will shortly move from its present quarters into a new building on Race Street.

**The Racine Rubber Co.**, Racine, Wis., is about to open a branch sales office in Grand Rapids, Mich. Quarters have already been leased. The office will be in charge of Fred E. Fagerstrom of Racine, Wis.

**The Marathon Tire & Sales Co.**, Cleveland, is now doing business in its new quarters, 8217 Euclid Avenue.

**The Bloch Engineering and Storage Battery Co.**, Cincinnati, has been appointed distributor for the Ever Ready Storage Battery for Cincinnati and Hamilton County.

**A. J. Doherty, Jr.**, Lansing, Mich., has opened an automobile accessory and supply store in that city and is running it under the name of "Fred's Auto Shop."

**The Becker Auto Co.**, Grand Rapids, Mich., has installed a paint shop and has secured the services of Floyd Ames and Vern Minion, formerly with the Cadillac Sales Co., that city, to run it.

**A. E. McGraw**, Grand Rapids, Mich., formerly with the Chicago branch of the B. F. Goodrich Tire Co., has been engaged to cover northern Michigan territory in the interest of Goodyear products.

**The Diamond Tire & Supply Co.**, Milwaukee, has opened headquarters and store at 130 Oneida Street and will act as dealer in Diamond tires, Silvertown cord and Goodrich truck tires. The members of the firm are W. H. Mason, who resigned March 15 as manager of the Milwaukee branch of the B. F. Goodrich Rubber Co., and James R. Petley, head of the J. R. Petley Co., 445 Milwaukee Street, distributor of Diamond mechanical rubber goods in Wisconsin.

**The W. E. Riley Motor Co.**, 103 East Doty Street, Madison, Wis., has been appointed Maxwell and Chalmers dealer in Madison and Dane County by the Osmond-Kemler Co., state distributor.

**The Service Auto Co.**, Clintonville, Wis., Ford dealer, has acquired the garage and equipment of the Clintonville Motor Co., owned by F. A. Spearbraker, Buick dealer, who moves into the former Star Garage building.

**The Badger Tire Repair Co.**, 142 Oneida Street, Milwaukee, Wis., has been appointed Wisconsin distributor of the Century-Plainfield tires, made by the Century-Plainfield Tire Co., Plainfield, N. J.

**The Goodyear Tire & Rubber Co.'s** Milwaukee branch, covering the Wisconsin and Upper Michigan territory, will move May 1 from 280 East Water Street to new and larger quarters at 258 Milwaukee Street. A. J. Sears is manager.

**The Copeland Motor Sales Co.**, Milwaukee, has been appointed distributor of the Grant Six in Milwaukee County, working under the direction of the Bachman Motor Co., Milwaukee, distributor in Wisconsin and Upper Michigan. A. E. Copeland, formerly manager of the Hotel Wisconsin, is head of the new concern.

**The Quality Tire & Rubber Co.**, 468 Jefferson Street, Milwaukee, has been designated as Milwaukee County dealer in Flisk solid tires. The company already is Gordon tire distributor in a large southwestern Wisconsin territory.

**The Packard Tire Stores, Inc.**, Milwaukee, has been incorporated with a capital stock of \$50,000 to establish retail tire stores in Milwaukee County and other districts of Wisconsin. The incorporators are H. A. Packard, W. L. Stutson and F. A. Lange.

**John Coppes**, Kaukauna, Wis., has been appointed Buick dealer in that city and en-

virons and has opened salesrooms and headquarters in the building adjoining the Grand View Hotel, Kaukauna.

**Walter Sanders** and **B. L. Brown**, Plymouth, Wis., have formed a partnership under the name of Motor Service Co., and have opened a garage and repairshop in the former Oestreich machine shop at Mill and Milwaukee streets. Mr. Sanders for a long time was connected with the Delcher & Arndt Garage, Plymouth.

**The South Superior Motor Co.**, Superior, Wis., has been appointed Essex dealer. Ben Gallinger is manager.

**The Sheridan Road Garage**, Kenosha, Wis., is a new Oakland dealer.

**C. C. Shepard**, Madison, Wis., has opened a tire store and repairshop at 122 East Washington Avenue, and will act as dealer in the Racine pneumatic and cord tires, which he represented as a traveler in the north section of Wisconsin for several years.

**The Auto Body Co.**, Appleton, Wis., is erecting a one-story addition, 30 x 50, to be used as a painting and finishing shop.

**The Wyocene (Wis.) Motor Car Co.** has been acquired by H. J. Dunham & Son, Orville, of Pacific, Wis. Bert Heinze, former proprietor, and his brother, Oliver, have purchased the Rio Garage Co., Rio, Wis.

**A. H. Dahl**, Kenosha, Wis., Ford dealer, has purchased the Russell Bros. garage, Exchange and Wisconsin streets, Kenosha. It is 100 x 150 and one of the largest public garages in Wisconsin. Russell Bros. will limit their business to the livery and taxicab business and will open in a new location.

**The Miami Storage Battery Co.** is the latest accessory firm to start in business in Dayton. It will be made headquarters for the Orest-O-Lite battery.

**Sam Meissner**, Detroit, who conducts three large tire stores in that city, has just taken over the distribution of the Gordon line of automobile and truck tires.

**The Philadelphia Battery Service Co.** has commenced business in Dayton, a service station being installed. The company handles the Philadelphia battery.

**A. Roebuck** and **L. Perl** have taken over the repairshop and accessory department of the Boulevard Auto Co., Grand Rapids, Mich., and will conduct the business under the name of Roebuck & Perl. The new firm will also engage in the general repair business.

**Chas. J. Kessler**, New Lexington, Ohio, former postmaster, has taken on the Overland agency and opened a salesroom opposite the courthouse.

## CANADA

**The Grace Motors, Ltd.**, Toronto, Ont., has moved into its new sales and service plant. This company is one of Canada's largest distributors of motor trucks and automobile accessories.

## NEW GARAGES

Bjork Bros. Auto Co. .... Princeton, Minn.  
Smith & Handy ..... Nashwauk, Minn.  
Standard Oil Co. (station).

Thief River Falls, Minn.  
Madson & Haakenson ..... Manchester, Minn.  
P. O. Nesvik ..... St. Anthony Park, Minn.  
Wm. Poppenberger ..... St. Paul  
Dr. B. A. Pomeroy ..... St. Paul  
Standard Oil Co. (station).

Albert Lea, Minn.  
Orth & Nandel ..... Menno, S. D.  
Moran Bros. .... Emery, S. D.  
J. A. Steinger ..... Parker, S. D.  
Paul Peterson ..... Miller, S. D.  
Nissen-James Auto Co. .... Doland, S. D.  
Cliff Bales and W. Laurinat ..... Wolsey, S. D.  
Fred Wurfel ..... Huron, S. D.  
Edward Bushnell ..... Newell, S. D.  
C. W. Thompson ..... Sioux Falls, S. D.



Dell Rapids Auto & Supply Co. (station),  
Dell Rapids, S. D.  
Edw. Anderson ..... Jamestown, N. D.  
Leonard Bradley (repairshop),

Buffalo, Mont.  
J. B. McGurk (tireshop)....Missoula, Mont.  
George Hough .....Baker, Mont.  
George E. Mickel.....Walnut, Iowa  
Frank Hart .....Anamosa, Iowa  
L. D. Stevens.....Hamburg, Iowa  
Henry County Battery & Electric Co.,

Mt. Pleasant, Iowa  
Pennock Brothers (60 x 100),

West Branch, Iowa  
Anderson & Mess.....Ida Grove, Iowa  
Hoover & Foster.....Quasequoten, Iowa  
Ben Colton .....Osage, Iowa

James H. Palmer.....Albia, Iowa  
George Feltes.....Bellevue, Iowa  
Moore & Moore (40 x 90)....Malvern, Iowa  
W. E. Deming.....Estherville, Iowa  
Peterson & Hurto.....Vinton, Iowa

Gurcow Brothers (50 x 150)Sioux City, Iowa  
Albert Wittman .....Humbolt, Iowa  
Standard Oil Co.....Davenport, Iowa  
Oelwein Auto Co.....Oelwein, Iowa

Henry Wagner (two-story concrete,  
50 x 150) .....Portland, Ore.  
B. M. Moser (one-story frame, 85 x 45,  
\$3,000) .....Seattle

A. Tetsch (two-story brick, 100 x 100,  
\$12,000) .....Portland, Ore.  
George C. Banford (one-story brick,  
50 x 100, \$5,000) .....Portland, Ore.

C. P. Barrette (brick, 49 x 100, \$3,500),  
Portland, Ore.

Gerber Auto Sheet Metal Wks (one-story  
concrete, \$12,000) .....Portland, Ore.

Beno & Ballis (one-story concrete, \$7,000),  
Portland, Ore.

Pennock Brothers .....West Branch, Iowa  
Cline & Warner.....Bloomfield, Iowa

Drummond-Cromer Co.....Albia, Iowa  
Norris & Kerr Co.....Cedar Rapids, Iowa

Imler & Doolin .....Greene, Iowa  
Collins Oil Co.....Albia, Iowa

Toledo Tire Co.....Toledo, Ohio  
McVicker & Long.....Sheldon, Iowa

Ponsford Brothers & Langsford,  
Waterloo, Iowa

Wastrom & Nissen.....Iowa Falls, Iowa  
Long & Mendenhall.....Sac City, Iowa

Honberger & Eerskia.....Hamburg, Iowa  
Kamrar Garage (\$25,000).Webster City, Iowa

Auto Sales Co.....Marshalltown, Iowa  
R. W. Joyce.....Webster City, Iowa

Sioux City Storage Battery Co.,  
Rock Rapids, Iowa

## Stand Pat on Price

In selling used cars, trucks, tractors, equipment or anything else to a farmer, stand pat on your price. Make him pay right to the mark or lose the sale. Once you cut, you always have to cut. Once you stand pat, that man has the greatest respect for you. Never look for an opportunity to cut. —Gene Brunk, former machinist, now a farm trade salesman, Weber Implement and Auto Co., St. Louis.

Shaefer & Wahe.....Adair, Iowa  
O'Leary Auto Co.....Iowa City, Iowa  
L. Florine (50 x 100).....Cherokee, Iowa  
C. E. McKeehan & Co.....Atlantic, Iowa  
International Mack Corp. (\$25,000)..Spokane

G. M. Carter (35 x 120, \$10,000),  
Centralla, Wash.

Joe Konopka .....Pe Ell, Wash.  
A. E. Lindsay (\$10,000).....Nampa, Idaho

Motor Sales Corp. (one-story garage and  
salesroom, 88 x 100, concrete and tile,  
\$15,000) .....Vancouver, Wash.

Leach & Christenson (60 x 80),  
Hartford, Wis.

George Kamm (50 x 120).....Racine, Wis.  
Milwaukee-Western Fuel Co. (30 x 133),  
Milwaukee

William Breitzman (40 x 130),  
Janesville, Wis.

John Coppes .....Kaukauna, Wis.  
Roepke & Beversdorf (30 x 120),  
Birnamwood, Wis.

Sanders & Brown.....Plymouth, Wis.  
J. M. Ralston (\$12,000) .....Albany, Ore.

Smith & Batten Motor Sales Co.,  
Defiance, Ohio

V. Guardino (90 x 100).....Brooklyn, N. Y.  
Robert Mohr (38 x 120).....Bethlehem, Pa.

W. M. Poole.....Atlanta, Ga.  
Jos. M. Curran (70 x 286)....Baltimore, Md.

Durham Buggy Co.....Durham, N. C.  
C. E. Barrett.....San Antonio, Texas

E. T. Heyden (99 x 125).....Omaha, Neb.

Yount & Galeener (80 x 150)..Sikeston, Mo.  
Moss & Moss.....Kensington, Pa.  
Mammoth Garage Co.....Lexington, Ky.  
H. Wagner (50 x 150).....Portland, Ore.  
S. Calpaciaci (20 x 95).....Philadelphia, Pa.  
Seattle Auto Co. (128 x 34).....Seattle  
John Haley (108 x 600, \$10,000).....Seattle  
W. J. Millenbeck (\$5,000).....Seattle  
International Mack Corp. (\$25,000).....Seattle  
Fulmer Bros. (\$40,000) .....Yakima  
H. H. Schott and William Halsey (\$25,000),  
Yakima

A. L. Cohen (\$30,000, 120 x 108).....Seattle  
A. E. Lindsey (\$15,000) .....Nampa, Idaho

B. O'Hara (100 x 100, \$12,000).Portland, Ore.  
S. Stritzinger (47 x 137, \$7,500),  
Portland, Ore.

The Willis Co. (100 x 100, \$10,000),  
Portland, Ore.

W. E. Grimshaw (120 x 108, \$16,000),  
Seattle

Meerscheidt Bros. (110 x 65, \$5,000).....Seattle  
Roote Auto Top Co. (50 x 120, \$10,000),  
Vancouver, B. C.

Rose & Reid.....Ironton, Minn.  
Nelson & Wyant.....Willmar, Minn.

Frick & Barkley (battery service),  
Pipestone, Minn.

Stanley Algren .....Kinbrae, Minn.  
Yeadicke & Stalsky.....Alpha, Minn.

W. E. Hibbard.....Northfield, Minn.  
Underhill & Velta.....Canby, Minn.

Bergquist Bros. ....Moose Lake, Minn.  
Heppner & Dick.....Mountain Iron, Minn.

Kretch Auto Co.....New Ulm, Minn.  
Kiefer Auto Co.....Moorhead, Minn.

Carl Mellie .....Shafer, Minn.  
J. B. Chapel .....Marietta, Minn.

A. G. Jurgens.....Ortonville, Minn.  
Everet Vander Pol (sales).....Edgerton, Minn.

Harold Wood (addition),  
Long Prairie, Minn.

Fred Collins (repairshop).....Minneapolis  
Boyd-Romann Auto Co.....Aberdeen, S. D.

J. H. Lemon.....Beresford, S. D.  
Stoltz & Co. (Motor Inn).....Newell, S. D.

E. Tedin .....Rosholt, S. D.  
Emil Lorentzen .....Powers Lake, N. D.

Lindaas Bros. ....Mayville, N. D.  
Edw. Anderson .....Jamestown, N. D.

J. J. Nedrelee .....Minot, N. D.  
Frank Armitage .....Burt, N. D.

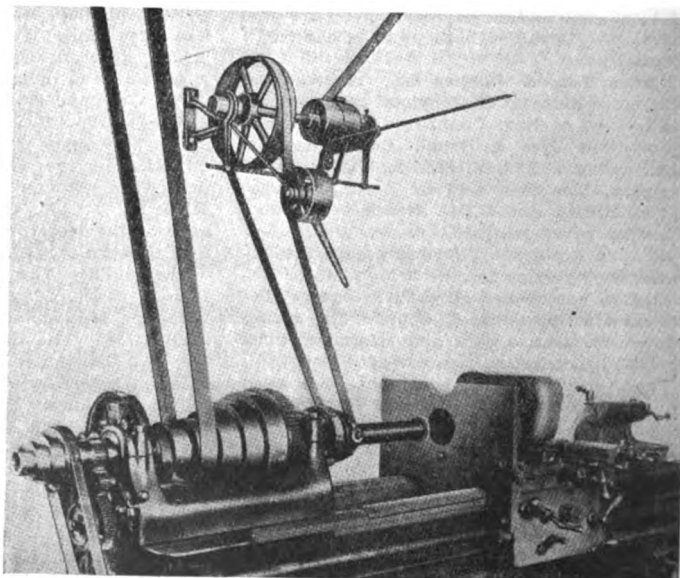
George Noble .....Beach, N. D.  
L. F. Smith .....Mandan, N. D.

J. D. Root.....Guelph, N. D.  
Wm. Redmond.....Devils Lake, N. D.

James Roane .....Harlowton, Mont.  
George Hough .....Baker, Mont.

## Acme Cylinder Grinder

THIS is a cylinder grinder for use in connection with a lathe. The grinder proper consists of three parts, the base plate which is bolted to the face plate, the cross slide to which the spindle is fastened and the adjustable angle plate which is mounted on the carriage of the lathe. The cylinder block is clamped to the angle plate in such a position that the bore of the cylinder to be ground is in line with the axis of the headstock. The grinder head which is mounted on the face plate is eccentric, the amount of eccentricity being controlled by a micrometer screw which in turn controls the diameter that the cylinder is being ground to. A countershaft supplies power to turn the grinder wheel and as the distance between the two pulleys changes as the headstock turns around, a weighted pulley takes up the slack. The grinding wheel turns at a speed of 4000 r.p.m., while the headstock revolves at a slow speed. The capacity of the machine is for cylinders from 2½ in. in diameter up and up to 12 in. in depth. The equipment is complete with countershaft, diamond dresser, dresser holder, six grinding wheels and the necessary wrenches. Price \$175.—Continental Grinder Co., Inc., 2840-2848 Fremont Avenue South, Minneapolis.

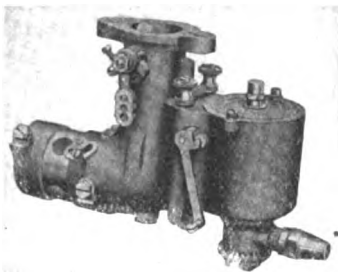




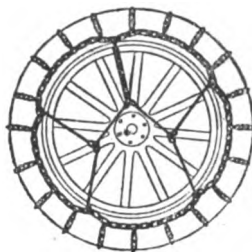
# Automotive Equipment

## SCHEBLER MODEL "A" PLAIN TUBE CARBURETER

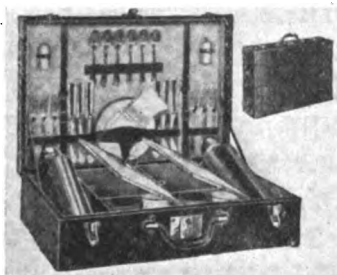
This is a plain tube carbureter built around the Pitot principle utilizing the differential head created by an upstream and down stream tube to control the fuel delivery. The low speed or idling device delivers fuel and air at the edge of the throttle disk to its closed position. There are two gasoline needle adjustments, one for low speed and the other for high. There is also a starting shutter in the air intake and a gasoline strainer in the bottom of the bowl. Adjustment is provided for warming up the engine. Made in 1, 1½, 1¾, 2 and 2½ in. sizes in the vertical type and in a 1 and 1½ in. in the horizontal type. Prices \$19.50 for 1 in., \$21 for 1½ in.—Wheeler-Schebler Carbureter Co., Indianapolis.



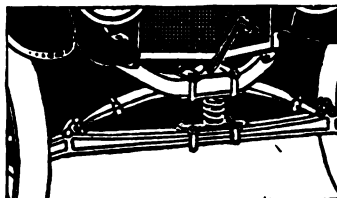
Schebler Model A Carbureter



Merchant's Chain Tightener



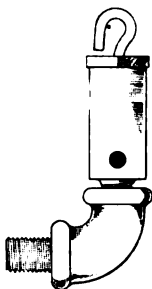
Knickerbocker Luncheon Case



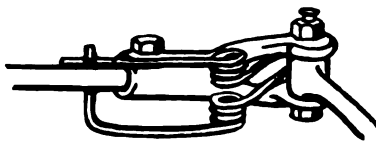
Plunkett Shock Absorber

## KNICKERBOCKER NO. 8 LUNCHEON SUIT CASE

This is a luncheon case which when the articles are properly stowed and the case folded up resembles a suit case. The covering is in black enamel drill with leather bound edges. The lining is washable material and there are removable food boxes, pads for dishes, etc. The equipment consists of white enamel plates and cups, plated knives, forks and spoons. Glass butter and sugar jars, salt and pepper shakers are also provided. The equipment is sufficient for four or six persons.—Knickerbocker Case Co., Knickerbocker Building, Chicago.



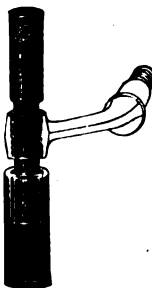
Casco Test Pet Cock



Superior Anti-Rattler

## CASCO TEST PET COCK

This is a test pet cock for Fords or other cars in which the height of the oil is determined by means of a pet cock. Under ordinary conditions a spring keeps a steel ball on its seat and prevents the oil from coming out, but when the plunger is pulled out this compresses the spring and allows the ball to come away from its seat and the oil drips out through the hole. The plunger can be pulled out either with a hook or with a wire.—Casco Mfg. Co., Thomasville, Ga.



Stevens Bush Driver

## STEVENS NO. 2714 BUSH DRIVER SET FOR FORDS

This is a bush driver set for the Ford steering arm bushing. The set provides an anvil which also acts as a concentric sleeve to guide the punch which drives out or inserts the bushing. The anvil eliminates the step of removing the steering arm or

other parts of the steering gear from the axle when the bushing is being replaced. Price 80 cents.—Stevens & Co., 375 Broadway, New York City.

## MERCHANT'S SKID-CHAIN TIGHTENER

This is a spring device for keeping the skid chains tight and allowing them to creep around the wheel at the same time. The arrangement of steel rods equalizes the work of one spring and gives an equal tension at all points of contact with the chain, and at the same time takes up the slack in the chain as it wears or as the cross chains break. Price \$1.—M. H. Merchant's Corp., 236 Emma Street, Syracuse, N. Y.

## PLUNKETT SHOCK ABSORB- ERS FOR FORDS

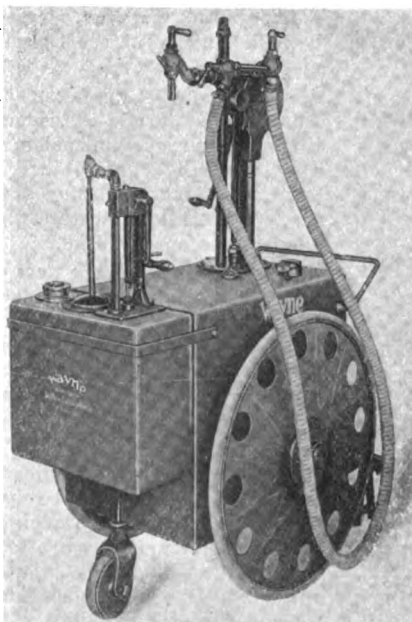
These are coil-spring shock absorbers for Fords, one being placed over the center of the front axle and two being placed over the spring hanger of the rear axle. Can be attached without the use of any other tools than a wrench.—Plunkett Shock Absorber Co., Inc., 323-327 Washington Street, Brooklyn, N. Y.

## SUPERIOR ANTI-RATTLER

This is a coil-spring device which is inserted under tension between steering arm and the tie rod and keeps the bushing of the steering arm tight against the pin in the yoke. Made in four sizes. No. 1 for Chevrolet 490, No. 2 for Ford and Dodge, No. 3 for small Mitchell and No. 4 for large Chandler. Price 75 cents per pair.—United States Automatic Spring Co., Napoleon, Ohio.

## WAYNE PORTABLE WHEEL TANK

This is a portable wheel tank for the storage and distribution of gasoline and lubricating oil. It consists of a 50 gal. gasoline tank fitted with gallon pump and 10 gal. lubricating compartment with pint pump. It is equipped with large rubber tired wheel and is built to a measure of safety prescribed by the National Board of Fire Underwriters. A magnetic float gage indicates the amount of gasoline in the tank and the fill pipe extends from the tip of the tank to within an inch of the bottom and is 1½ in. in diameter. The size overall is 42 in. long, 32 in. wide and 64 in. high. Equipment includes 7 ft. gasoline hose, two nozzles, lock, drip-pan, filling flange, etc.—Wayne Oil Tank & Pump Co., Fort Wayne, Ind.



Wayne Wheel Tank



## PRESIDENT VESPER COMMENDS MOTOR WORLD'S SUMMER MERCHANDISING NUMBER

*He says that instead of "Make money in 1919, make more in 1920" the slogan should be "Make money all the time." He also doesn't like the formal suit on the man in the cartoon on page 73. The suits, of course, were drawn as they are for the sake of contrast, and the representation is metaphorical. MOTOR WORLD thanks President Vesper for his expression. Let's take his advice and all make money ALL the time*

C183A77 BLUE

GR ST LOUIS MO 208P 21

MOTOR WORLD

231 WEST 39 ST NEWYORK NY

CONGRATULATE YOU ON YOUR SPLENDID SUMMER MERCHANDISING NUMBER. IT EXEMPLIFIES MOST FORCIBLY THE N.A.D.A. IDEA OF WHAT THE AUTOMOBILE BUSINESS SHOULD BE. YOUR SUGGESTIONS ARE MOST TIMELY. PROTEST, HOWEVER, UPON THE FORMAL DRESS SUIT WORN BY WAR TIME ENERGY. SHOULD BE BRAND NEW SUIT. REAL BUSINESS RUN BY REAL BUSINESS MEN WOULD NEVER WEAR SUCH OLD THREADBARE CLOTHES. JOIN THE N.A.D.A. IS BEST WAY TO MAKE START. LETS MAKE THE SLOGAN READ MAKE MONEY ALL THE TIME.

F W A VESPER,  
PRESIDENT,  
NATIONAL AUTOMOBILE DEALERS ASSOCIATION

## CLEVELANDERS FORM TRADE ASSOCIATION

### *New Organization of Auto- motive Interests Affiliates with Commerce Chamber*

CLEVELAND, April 27—J. L. Huston, of the Jeavons Spring Lubricator Co., is president of the newly organized Cleveland Automotive Association, which is affiliated with the Cleveland Chamber of Commerce.

W. A. Snyder, of the American Garage Co., is first vice-president; P. M. Pontius, manager of the Cleveland branch of the Firestone Tire & Rubber Co., second vice-president; V. D. Atwood, of Durkee-Atwood Co., treasurer; Clifford Gilder-sleeve, assistant secretary of the Chamber of Commerce, is executive secretary of the new association.

The organization of this body took place at a dinner in the Hotel Winton last Thursday night. There were 50

guests at the dinner who applied for membership, and the next session will be held May 14 at the Chamber of Commerce.

Victor Moon, manager of the Ohio Automobile Trade Association, with which the new organization also is affiliated, says the chief objects of the new body are teaching better business methods, establishing better practices and eliminating credit risks.

One big result of the new organization may be the holding in Cleveland of the annual convention of the Ohio association in December, according to Moon. Executives of the Cleveland Association, in addition to carrying on their regular work, will make a big drive for the state gathering.

Garage, supply and sales divisions of the association here probably will benefit most from the new association, but all phases of the industry are to be included, tractors and airplanes as well as trucks and cars. Similar associations are being formed throughout Ohio.

Divisions ready for the discussion of trade and industrial topics include these:

Automotive equipment, garage men, manufacturers, electrical and tire men.

Three men will be chosen from each of the divisions to sit on the executive council of the association. Problems relating solely to a single division will be discussed and solved in that body, but when it overlaps and takes in two or more divisions the representatives on the executive council of each necessary division will meet, work out a solution and report back to their sections. The garage division will meet May 21 at 8 p.m., and the electrical division on May 30 at 8 p.m.

### **New Activities in Birmingham**

BIRMINGHAM, ALA., April 21—The Didlake Motor Co. has been formed here to handle the Moon. James D. Didlake is president. The company has secured a salesroom and service station on South Twenty-first Street, the Motor Row.

The Drennen Motor Co. is erecting a large building on South Twentieth Street, which will be ready for occupancy in 30 days.



## S. A. E. SUMMER MEET WEEK OF JUNE 23-27

### To Combine Business and Pleasure at Great Lakes Hotel—Ladies Invited

NEW YORK, April 17—The summer meeting of the Society of Automotive Engineers will be held at Ottawa Beach, an exclusive summer resort on the east shore of Lake Michigan, six miles from Holland. The society has secured the exclusive use of the Ottawa Beach Hotel and cottages for June 23, 24, 25, 26 and 27. Accommodation has been provided for 1000 members and guests. The standards meeting will be held Monday, June 23. In the evening the annual business meeting will take place, and on Tuesday, Wednesday, Thursday and Friday professional sessions will occupy the program. Two half-days will be given over to recreation and sports.

The rule which barred women from attending sessions the last two years during the war has been waived and members will have an opportunity of taking their families and combining vacation with the summer meeting.

The program has not been definitely outlined as yet, but the general plan is to devote 50 per cent of the time to discussion and handle only a few important subjects. This year the "future design of the passenger car" will be the subject for an entire session, and five or six engineers will be asked to outline their conceptions of the future car and be prepared to advance reasons for their opinions.

In a similar way the questions relating to production as concerned with cars, trucks, tractors, motorcycles, etc., will be the subject of an entire session. It is hoped to handle motor trucks, farm tractors and aviation in a similar way. There will be papers on motor boating, electric lighting systems, etc.

The meetings committee, which has the meetings of this year in charge, has been appointed by President Manly and consists of Chairman, David Beecroft; W. A. Brush, C. F. Scott, B. G. Koether and Dent Parrett.

### Chicago-New York Reliability in Sight

CHICAGO, April 19—The long-promised inter-city reliability run, in which dealers and owners from Chicago, New York and other cities were to compete, seems probable of accomplishment this year with teams from New York and Chicago as contestants. According to the plans announced by the Chicago end of the contest, there will be two teams from this city, one representing the Chicago Automobile Club and the other the Chicago Athletic Association. There probably will be ten contestants from each club and the run will include the annual inter-club contest between the Chicago organizations as well as the fight between the teams from the two cities.

The dates have not been set definitely, but probably will be June 13 and 14, and the route will be from New York City into Massachusetts and return.

### 22 Indianapolis Entries So Far

NEW YORK, April 21—Although the entry lists are open until May 1, the Contest Board of the American Automobile Association has already received 22 official entries for the annual 500-mile Liberty Sweepstakes to be run on the Indianapolis Speedway May 31. The drivers and the cars they will pilot are:

Driver	Car
Clifford Durant	Chevrolet special
Dario Resta	Sunbeam
W. W. Brown	Richards special
Earl Cooper	Stutz
Eddie O'Donnell	Duesenberg
Kurt Hitke	Roamer-Duesenberg
Ralph DePalma	Packard special
Denny Hickey	Stickel special
Arthur Thurman	Thurman special
Ralph Mulford	Frontenac special
Jean Chassagne	Sunbeam
Jules Goux	Peugeot
Louis Chevrolet	
Tommy Milton	Duesenberg
Eddie Hearne	Durant special
Louis LeCocq	Roamer special
H. C. Simmons	Hudson special
Elmer P. Shannon	Mesaba special
J. M. Reynolds	Hudson special
Wilbur D'Alene	Duesenberg special
Ray Howard	Peugeot special
Eddie Pullen	Hudson special

### Los Angeles-Yosemite Economy Run

LOS ANGELES, April 19—Plans are now being laid for the third annual gasoline economy run from this city to Yosemite Valley. The dates proposed are May 30 and 31. At that time the roads will be in better condition than later, when they have been cut up by heavy traffic. The attractions of the valley will be more beautiful, as there will be an abundant supply of water for the streams and falls. In the past these runs have been very successful from the standpoint of entries. They are operated on the ton-mile basis, however, and this has been the cause of frequent controversy. In order to increase the weight, which is a big factor in determining ton-miles, dealers have entered enclosed models and carried full capacity loads.

### Columbia to Double Production

DETROIT, April 21—The Columbia Motors Co., while working upon plans for a new factory plant, will not build this year, but will lease buildings providing sufficient facilities to permit the company to double its production. No definite building has been selected but the company has several in sight. The company finds its expansion plans call for the doubling of its floor space, 100,000 additional square feet being required. This company has orders for 1300 cars and contemplates producing 3000 passenger cars this year.

### Durant Denies Getting Ford Control

NEW YORK, April 21—W. C. Durant, president of the General Motors Corp., has denied that Henry Ford's interests in the Ford Motor Co. have passed to the General Motors Co. It was reported last week that such a transaction had been completed.

## LOS ANGELES TRADE ACTIVE AT PRESENT

### No New Dealers in 1918 and None Failed—Changes of the Past Few Weeks

LOS ANGELES, April 19—During 1918 the records show there were no new entries into the motor car business in Los Angeles. The reason was the national conditions that existed. Those distributors and dealers who had been in business the year before anticipated a lean year and made their plans accordingly. There was not a single failure. Some dealers got pretty close to the ragged edge and others admitted they were not making money, but none quit. Now they are glad they did not quit, as a good selling season is anticipated.

But since the first of the year there have been a number of agencies established, and it now looks as if there will be a resumption of old-time activity along this line. Probably the most important change that has been made was in the establishment of the Maxwell-Hoffman Co., as representative of the Studebaker line to succeed the factory branch that has been maintained for many years. The heads of this firm have been identified with the Studebaker interests for many years.

The B. F. Shields Co. has been organized and has taken over the distribution of the Lexington in Southern California and Arizona. The firm members came here from Seattle.

The Jones & Elsebush Auto Co. is a newcomer and will distribute Metz cars in California, Arizona and Nevada.

The Western Motor Car Co. of San Francisco will soon open a branch here to represent the Kissel.

An agency for the Daniels has been established and a show room and garage rented.

The Gates-Kelley Automotive Co. has been appointed distributor for the All-American truck in California, Arizona and Nevada.

A number of new accessory dealers and service representatives also have opened headquarters here.

A. E. Evans & Co., a new firm, distributes the Paige.

### Louisville Truck Dealers Organize

LOUISVILLE, April 19—The Louisville Motor Truck Dealers' Association was organized this week at the office of the Southern Motors Co. Walter Dix, head of this concern's truck department, was elected president of the organization; Arthur C. Weber, of Jacob Weber's Sons, vice-president; Ed Andriot, of P. M. Andriot & Sons, secretary, and Chester P. Wilson, of the Chester P. Wilson Co., treasurer. The directors are: H. A. Collins, of the Kentucky-Indiana Truck Co.; A. J. Gardner, of the White Motor Sales Co., and Sid Schultze, of the Motor Truck Garage. Fifteen dealers and distributors were enrolled as members.



## N. A. D. A. FIELD MAN APPOINTED IN EAST

### *Tooker Named to Help Organization and Better Business in Five States*

NEW YORK, April 18—N. L. Tooker, one of the newly appointed field secretaries of the National Automobile Dealers' Association, has begun operations in the East, working in New York, Pennsylvania, New Jersey, Delaware, Maryland and the District of Columbia. He will make his headquarters at the offices of the New York Automobile Dealers' Association, now in the Woodward Hotel, and later to be in new rooms at 1845 Broadway.

Tooker was for a number of years connected with the Bosch Magneto Co. in connection with direct advertising and sales promotion and is conversant with the dealer situation throughout the country. He was later a dealer himself.

After his release from the army, where he entered as an enlisted man and came out a commissioned officer, he became interested in the work being done by the N. A. D. A.

"It is my place," states Tooker, "to co-operate with local associations to the fullest extent and to lend every effort in the organization of associations in the cities where there is no association at the present time and in general assist in the bringing about of better business conditions."

Dealers who are interested in the organization of an association in their city are requested to communicate with Tooker and he will arrange to call upon them and endeavor to bring about a co-operative spirit which is so much needed between the dealers in every locality.

### **Tooker Visits Wilkes-Barre**

WILKES-BARRE, PA., April 18—N. L. Tooker, field secretary of the National Automobile Dealers' Association, participated in a meeting yesterday noon of the Wilkes-Barre Automobile Dealers' Association at the Reddington Hotel. The association has under way plans for an increased membership and plans a more active participation in the affairs of the N. A. D. A.

Tooker's visit may result in the extension to N. A. D. A. members generally of the benefits of a collection bureau for handling bad accounts. He will report to General Manager Harry G. Mook, St. Louis, a plan which Wilkes-Barre dealers used with considerable success. Dealers here believe the plan could be adopted by the N. A. D. A., provided no interstate complications arise.

This plan was sold to the dealers by a collection agency in Philadelphia, which supplied blanks of a series of four form letters, bearing the name of the collection bureau. These forms were mailed out by the dealers to dead beats, and the results were surprising. In case the letters failed the agency collected, or tried to, on a 10 per cent basis.

The meeting was addressed by Tooker, Peter G. Rimmer, president of the Wilkes-Barre Automobile Club, and President Frank Matheson of the dealers' association.

The dealers discussed a used-car co-operative plan whereby every dealer would be given an opportunity to handle all his own used cars, provided he and the trading dealer can agree on the price.

President Matheson reported that good work has been done on good roads at the state capital, and that Luzerne and Wyoming counties will have better highways soon.

## N. A. D. A. IS OUT FOR UNIFORM LEGISLATION

### *Wants Same Rules on Licensing, Taxation, Mortgage-Recording, Liability*

ST. LOUIS, April 21—The first quarterly meeting of the executive committee of the N. A. D. A. was held last week. There were present: F. W. A. Vesper, president; W. J. Brace of Kansas City, P. E. Chamberlain of Denver and A. E. Maltby of Philadelphia, directors, and Harry G. Mook, business manager.

Four definite objects for the immediate future were outlined as follows:

1—Classification of the automobile as an essential and not a luxury and the consequent elimination of the 5 per cent luxury tax on automobiles.

2—Support of the Townsend Bill for a National Highway Commission and system.

3—Uniformity of State legislation.

4—Stabilization of the truck market.

The uniform State law will concern licensing, taxation, mortgage recording, mechanics' liens, liability, headlight regulation, speed laws, protection for sales of the conditional vendor and the like. The N. A. D. A. has in preparation a model law and will have it ready to begin a campaign wherever State legislatures are to meet. Much of the recent effort to pass such laws and the confusion resulting from the different ideas in almost every State are laid largely to a lack of a guide. The N. A. D. A. hopes to supply the guiding hand.

The stabilization of the truck market refers to the War Department trucks. The present efforts to stop auction sales will continue. The Townsend Bill is self-explanatory and the N. A. D. A. suggests that every automotive dealer should join in that fight by importuning his own congressmen, both representatives and senators.

### **Would Close Shops Sundays**

COLUMBUS, April 21—An ordinance has been introduced in the City Council closing automobile salesrooms and repairshops on Sundays. The ordinance provides as a punishment for violation fines ranging from \$5 to \$50. The measure was referred to the judicial committee and it is extremely doubtful if it will be passed.

## NINE DEPARTMENTS IN N. A. D. A. ORGANIZATION

### *Association Equipped to Render Nearly Any Kind of Dealer Help Asked For*

ST. LOUIS, April 18—The N. A. D. A. now has nine departments, all in good working order, to aid the dealer in his problems. The services of any or all are open to each member and at least one service will be given to any dealer who finds himself in a jam and nowhere else to go for advice. If the service extended is worth anything to him, the dealer aided will be expected to join. The departments are

- 1—Employment Bureau.
- 2—Legal Department.
- 3—War Tax Rulings Department.
- 4—Legislative Aid Department.
- 5—Speakers' Bureau.
- 6—Advisory Advertising Department.
- 7—Trade Information Department.
- 8—Highways Construction Department.
- 9—N. A. D. A. Bulletin.

The employment bureau is designed to place salesmen, department heads and other high-class employees where they will fit. The Legal Department will give information as to the laws of any or all States and will advise how to keep out of lawsuits. The War Tax Rulings Department supplies any information sought on this subject, especially the practical application. The Legislative Aid Department helps push good legislation and oppose bad legislation. It can bring pressure to bear on a city council or a State Assembly.

The Speakers' Bureau supplies speakers for any automotive occasion, any place. The Advisory Advertising Department will criticize and suggest local advertising copy. The Trade Information Department is a survival of the telegraph bulletin service during war times by which dealers were warned of new conservation tricks. It is at present working on the truck situation.

The Highways Construction Department can explain how to build roads, and it always has the latest Federal and State requirements on hand. The N. A. D. A. Bulletin goes to all members and helps those who read it.

Last week the N. A. D. A. offices received a call from a manufacturer who wanted to have a dealers' convention and did not know exactly how to go about it. In 30 minutes he had a plan all drafted, speakers on topics to suit him assured and a world of detail worked out for him. He looked over the things the N. A. D. A. is doing and decided that his dealers should hear all about it, so he invited the N. A. D. A. to take a place on the program for itself.

### **Briscoe Production Nears Normal**

JACKSON, MICH., April 17—The Briscoe Motor Corp. production is now nearing a pre-war basis. Fifty cars were turned out daily during March. This





*The Kansas City Motor Car Dealers' Association in the annual After-the-Show meeting. Ed Peake is secretary and manager of this association—and it has adopted many of his ideas. The slogan "Sold Service Satisfies" was enthusiastically applauded, as were other suggestions*

figure has been increased to 75 this month. New contracts received during the past few days are those from the Brooks Motor Co., Baltimore, Md.; the Kline Motor Co., Louisville, Ky., and the Briscoe Syracuse Sales Co., Syracuse, N. Y.

#### Brockman Heads St. Louis Dealers

ST. LOUIS, April 21—The St. Louis Automobile Manufacturers' and Dealers' Association has elected the following officers: President, Phil H. Brockman, De Luxe Automobile Co.; vice-president, H. F. Fahrenkreg, Mardell Motor Car Co.; treasurer, W. S. Roberts, J. I. Case T. M. Co. Directors: John Boe, St. Louis Motor Car Co.; H. G. Hurd, Buick distributor; C. E. Lightfoot, G. M. C. Truck Co.; J. T. Salisbury, More Automobile Co.; Joseph A. Schlecht, Mound City Automobile Co.; George Weber, Weber Implement & Auto Co.

President Schlecht declined re-election, after serving 2 years. The annual meeting was addressed by J. D. Parker of the Federal Land Bank, who explained that the U. S. Farm Loans were appropriately applied when farmers got this money for buying automotive equipment needed for their farms. He explained in detail how such loans are made. F. W. A. Vesper, president of the N. A. D. A., and C. E. Lightfoot, who have been opposing what is known in this State as the "mud roads bill," asked a continued fight by the association. This request was complied with, but the bill, which threatens to cut Missouri out of the Federal appropriation for roads, was signed by the Governor Friday.

#### Tax Primer Still Held Up

NEW YORK, April 21—Both the Motor and Accessory Manufacturers' Association and the National Automobile Chamber of Commerce which collaborated on the preparation of a primer on the new revenue bill, are at present strenuously endeavoring to have this document relased by the Solicitor General at Washington. It was submitted to him 3 weeks ago and he has been holding it ever since.

## What's What in Indianapolis

By John B. Orman

*Business Manager of the Indianapolis Automobile Trade Association*

INDIANAPOLIS, April 18—The motor car business still continues to go good, all dealers reporting that the demand for cars shows no signs of easing up. The question seems to be simply that of getting cars to deliver.

Gard Gale, former sales manager of the Commerce Truck Co. of Detroit, has opened an office in the Terminal Building here, and will distribute Commerce trucks, and Paterson passenger cars through Indiana territory.

The Indiana Motors Co., a late entry into the field, has taken on the Columbia car for this vicinity.

Among the changes in the trade here are noted the following:

Carl E. Wallerick, for several years special representative of the Hupp Motor Car Co., covering the territory of Indiana, Ohio and Kentucky, has resigned, and has become associated with the E. W. Steinhart Co. in charge of Dodge sales.

E. J. Maxwell, road representative of the R. V. Law Motor Co., Hudson, Essex and Dort distributor, has been brought into the house and made manager of the sales department.

Robert J. Hosea, formerly sales manager of the Automotive Service Co., has severed his connection with that firm and returned to his first love, the Wm. Small Co., manufacturer of the Monroe car, where he will be associated with the sales department.

The Lincoln Auto Tire Co. is the latest concern to go into the tire business here. It has opened up attractive salesrooms and will distribute Para-Bell tires and tubes. C. A. Henne is president and W. L. Henne general manager. Both men came here from Columbus, Ohio, where they were in the tire business for several years.

Plans have been completed for the erection of three new automobile salesrooms on Meridian Street, the new Motor Row. Construction will begin as soon as the site is cleared of houses. The

building will have a frontage of 110 ft. and a depth of 195 ft., giving ample space for sales and service.

President F. W. A. Vesper and Treasurer Thomas J. Hay of the National Automobile Dealers' Association are expected to arrive in town within the next few days to meet with Vice-President E. W. Steinhart and arrange for entertainment of the national association members who will attend the Speedway races here May 31.

A new company organized for the manufacture of tires will be incorporated here within the next two or three days. It will be known as the Majestic Tire & Rubber Co. The officers are R. H. Syfers president; E. Oscars, vice-president; and D. M. Hoppe, secretary and treasurer. The company has an option on a very desirable factory plant here and expects to begin building tires as soon as the necessary machinery arrives.

The Indianapolis Automobile Trade Association will hold its first big jubilee meeting of the season Thursday evening, May 1, at the Indianapolis Athletic and Canoe Club. Vaudeville, pictures, feed and oratorical efforts will be the features of the evening. These stunts are held three or four times a year by the local association, and are very successful in bringing and holding the dealers together.

"Andy" Hutchison, Duncan Holliday and Ralph K. Smith have organized the Storage Battery Co. to handle the State distribution of the Philadelphia Diamond Grid storage battery. This company will establish service stations in thirty-six central counties of the State and will supply each station from the main stock in Indianapolis. Hutchison and Holliday are both old-timers in the automobile business here, Hutchison being president of the Detroit Electric Sales Co.

In all probability visitors to the Speedway races here May 31 will have an opportunity not only to see but to hear Capt. Eddie Rickenbacker, if arrangements that are now being worked upon terminate satisfactorily. The gallant captain will make his bow as a lecturer before the Speedway crowds at the Coliseum on the night of May 30.



## Demand for Cars Ahead of Supply

Dealers in All Sections Report Shortage, with Deliveries Held Up from 2 Weeks to 3 Months—Little Relief in Sight

NEW YORK, April 21.—New York dealers are suffering from a shortage of cars. There is hardly a dealer in the city who can promise deliveries for sooner than 2 or 3 weeks. The shortage is particularly noticeable on six-cylinder open cars and sedans of any and all makes. The last few days of warm weather have literally swamped the dealers with orders, so much so in fact that several of them are now refusing contracts. Following are a few comments from some of the dealers:

Harry Houpt (Hudson and Essex): "We haven't any cars to sell, but we hope to have some soon."

Glenn Tisdale (Franklin): "The sum total of our stock is three limousines, though we had eight cars last week. We can deliver touring cars in 10 days to 2 weeks, but cannot promise sedans until July."

C. T. Silver (Apperson and Kissel): "We are refusing all orders and could sell 500 cars in a month if we could get them."

Buick Motor Co.: "We stopped taking orders 3 weeks ago and are at present a full month behind in deliveries. The demand for closed cars is steadily increasing."

E. S. Partridge (Owen Magnetic and Liberty): "Our only complaint is that we cannot get cars to deliver."

Colt-Stratton Co. (Dodge): "We are not promising deliveries for 4 weeks on open cars. On sedans we can't promise better than 8 weeks to 3 months."

Cutting-Larson Co. (Oldsmobile): "At present we require at least a month to make deliveries of sixes. We can't promise deliveries of eights for 2 weeks."

Harry DeBear (Maxwell and Chalmers): "We are just beginning to fall behind now, but by the end of next week we expect to be considerably behind on Maxwells. We have no Chalmers at all and cannot promise deliveries for 2 weeks. The call seems to be for sedans."

### Milwaukee Feels Shortage

MILWAUKEE, April 19.—Every distributor and dealer in Milwaukee is complaining over the fact that the supply of passenger cars is far below the demand. Despite the fact that shipments from factories are rapidly reaching the average of pre-war days, orders are increasing at even a greater rate, and dealers to-day are from 60 to 90 days behind on their requirements.

The condition of business in Milwaukee, from a retail standpoint, is reported excellent. While some say that the demand is not equal to that of two years ago at this time, others are of the opinion that on the basis of equal conditions requirements of to-day are considerably in excess of the last half of April, 1917. A feature of the situation is the demand for closed cars, principally sedans, coupes and limousines, in the order named. In general, dealers believe

they will not be able to catch up with orders this year. The call for the open cars is broad and pressing. Sentiment among dealers is that the demand will keep on increasing at an even faster rate than in the last month or two.

The Achen Motor Car Co. (Chandler) is from 140 to 150 cars behind on its orders to-day. Practically every closed car that will be available from now until Sept. 1 has been spoken for.

The Curtis Auto Co. (Reo) reports that it is 60 days behind on orders and requirements are being placed at a rate that makes it appear conditions are getting worse instead of better in respect to supply and demand.

The Milwaukee branch of the Buick Motor Co. finds the demand far above its ability to supply cars. While deliveries to this branch are increasing from week to week, buyers are making reservations even faster and there never have been so many unfilled orders as are on the files to-day. Even orders for used Buicks are from 50 to 75 per cent in excess of the supply. The demand for closed cars is the most remarkable in the experience of the local branch.

The Osmond Motor Car Co. (Paige and Winton) is about 75 to 80 cars behind on its actual orders for Paige, and so far has not been able to catch up with orders for the Winton.

The Milwaukee branch of the Packard Motor Car Co. of Chicago is far behind on its orders; in fact, it has not begun to fill orders accruing in the last 30 or 60 days, due to the large number of requirements placed between Dec. 1 and Feb. 1, before passenger car production actually was resumed.

The Jesse A. Smith Auto Co. (Hudson and Essex) accumulated a fair stock of cars last fall in anticipation of the cessation of passenger car production on Jan. 1, had the war continued, but even with this reserve it has not been able to cope with the demand.

The Milwaukee assembling plant of the Ford Motor Co. resumed work March 1 after being idle more than a year, and although it has already come close to the daily production of pre-war days, it is able to fill not more than one-half of current orders.

The March Motors Co. (Mitchell) despite its relatively favorable situation, 25 miles from the factory at Racine, is not in position to fill its orders, although men are dispatched to the factory immediately that a car becomes available for this field.

### Warm Weather Swamps Chicago

CHICAGO, April 18.—Dealers who are getting all the cars they can deliver are the exception. Chicago has been suffering from a period of rainy weather, and this is the first sunny day for some little time. It has brought the prospective car owners out in swarms. And those who have bought cars cannot get deliveries on account of the lack of cars.

The Chandler distributor is 175 cars short to-day.

W. S. McHaffey, vice-president of the Tri-angle Motor Sales Co., distributor of the

Stephens and Scripps-Booth, says they are forty Stephens cars short and barely even on Scripps-Booth, though they could use more if they could get them.

Gregory of the James Levy Motors Co. looks for a better supply by July, when he expects to see the different manufacturers bringing out 1920 models. Just now, however, he sees little hope for the small dealer. This concern is Buick distributor and wants 150 more cars right now itself. If it had seventy-five, says Gregory, it could deliver them between now and to-morrow night.

The best Kissel can promise is delivery in 3 weeks. The Kissel Motor Car Co. is unloading about two carloads a week. The other day it got five carloads, but that was an exception.

C. H. Foster, Cadillac Automobile Co. of Illinois, says he could sell twice as many cars if he had them.

### Louisville Way Behind

LOUISVILLE, April 21.—Most dealers and distributors here are booking orders to be filled 30 days ahead and they do not expect the supply to catch up with the demand until fall, perhaps not then. Letters and telegrams fail to bring a satisfactory number of new models and much valuable time is spent by the dealers on trains running between Louisville and factories in Michigan, Ohio and Indiana. Personal pleading has little effect on sales and production managers. They declare they simply can't turn out cars fast enough to meet the demand.

Ford dealers are able to deliver Sedans immediately, while purchasers of touring cars have to wait about a week before the cars are delivered. It takes three weeks to get a runabout or a coupelet. The Louisville Ford assembly plant which was used by the Government for some time starts making deliveries to dealers next Monday.

The Southern Motors Co. has about fifty unfilled orders on the books and cannot promise delivery on Packard and Hudson cars until the latter part of May.

The Standard Auto Co. cannot make deliveries on Cadillacs until June.

Reo buyers have to wait 30 days.

James Limbird, head of the Overland-Louisville Co., does not look for any relief in the situation until next August. It requires 30 to 60 days to get a new Overland in Louisville.

The Leyman Motor Co. cannot make delivery on Buicks in less than a month.

### Chicago Is Off

CHICAGO, April 18.—The Victory Loan campaign organization of the Chicago trade is practically the same as for the last drive. L. A. Peil, Mitchell distributor and president of the Chicago Automobile Trade Association, is chairman; otherwise the personnel remains about the same. In the last Liberty loan George H. Bird, of Bird-Sykes & Co., was president of the trade association and headed the campaign organization. He's still on the job as vice-chairman of the branch house subdivision. As before, the motor car and accessory trades committee is organized with subdivisions, namely, branch houses, passenger cars, trucks, accessories, tires, wagon and body builders, garages and repairshops, motorcycles, taxicabs and service stations.

The drive opened formally April 23



with a banquet to Capt. Eddie Rickenbacker at the Auditorium Hotel. The Chicago Automobile Trade Association and other motor organizations of the city were the hosts.

#### Philadelphia Names Its Committee

PHILADELPHIA, April 19—Group No. 3 in the Victory Liberty Loan drive here, which includes the automotive industries, has the following committees and chairmen, headquarters, as usual, being the quarters of the Philadelphia Automobile Trade Association: A—Automobile Manufacturers and Dealers, H. B. Harper. B—Automobile Tires, W. R. Walton. C—Automobile Accessories, Motorcycles, Repairs and Bicycles, T. Scott-Eavenson. D—Opticians, Optometrists, Photographers, Photo Supplies, L. S. Bowers. E—Wagon and Body Builders and Wheelwrights, August Geissel. F—Expressmen, Storage Warehouses and Carpet Cleaning, W. G. Herbert. G—Garages, George G. Blind. H—Motion Picture Companies, Exchanges and Supply Manufacturers, Frank Buehler. I—Undertakers, Thomas Wagner.

#### Brockman Heads St. Louis Committee

ST. LOUIS, April 21—P. H. Brockman, just elected president of the dealers' association, has been made chairman of the Victory Loan Selling Committee for the Seventeenth Ward, in which most of the automobile establishments are located. Later, the Nineteenth Ward, in which the automotive industry is strong, was added to his territory, and he had named C. E. Lightfoot, of the G. M. C. Truck Co., as chairman of that division. They will have about 150 automotive salesmen on their staffs.

#### Owen Magnetic Changed to Partridge

NEW YORK, April 18—E. S. Partridge Co., Inc., is the new name of the Owen Magnetic Motor Sales Corp. which handles the Owen Magnetic and Liberty in New York. The change in name is coincident with the occupation of a new sales and service building at 1826 Broadway. Partridge affiliated himself with R. M. Owen to develop the Owen car about five years ago and became president of the Owen Magnetic Motor Sales Corp. He is president of the new company, which recently has taken on the Lapeer trailer, formerly marketed under the firm name of Trailer Co. of New York, and subsidiary of the Partridge organization. Fred Titus remains sales manager and Julian Halford treasurer.

#### Holt-Best Patent Litigation Settled

SAN LEANDRO, CAL., April 19—Litigation between the Holt Mfg. Co. and the C. L. Best Gas Traction Co. over certain patents has been adjusted. The Holt company has acquired the Lombard patents Nos. 674,737 and 854,364 from the Best company and has licensed that company to manufacture under the Holt patents. The number of the patent in the suit instituted by the Holt company is 874,008.

## COAST DEALERS FACE SERIOUS CAR SHORTAGE

### *Few Distributors Have Enough and All Could Use More— Sales Average 125 Daily*

LOS ANGELES, April 18—So rapidly has the demand for motor vehicles increased in southern California that the reports show an average of 125 new cars are being placed in the hands of owners daily. During February there was a total of 1754 cars sold. In March the total of passenger cars was 2425. If the present rate continues throughout April this month will approximate 3200. Commercial vehicles are also making tremendous gains, a total of 383 being registered in March. Electric cars have become an almost negligible quantity, as only 5 were registered in February and March.

Los Angeles is the distributing center for ten counties. This territory embraces what is known as southern California. While vast in acreage, these ten counties do not present the sales possibilities that ten counties would in almost any state east of the Rockies. In some sections selling is restricted to a remarkably small population, comparatively speaking, and the fact that there are so many motor cars sold is due to the intensive work of the dealers. In southern California life is not considered as worth while if one does not own an automobile.

There has been a lot of finetooth-combing of the territory to dig up 100 car sales daily, but at the same time it can be said truthfully that there has been more cash buying in the 2 past weeks than at any other period for more than 2 years. This is a good indication, but it is feared the Victory Loan may have some bearing, as the Liberty loans of the past always slowed up business.

During March the number of Buick, Chevrolet and Dodge cars sold exceeds 200 each, and the new Fords registered were 607. The Oakland, Overland and Studebaker all passed the 100 mark during the month. Among the higher-priced cars the Cadillac easily ran away from its field with a registration of 68. Only one Locomobile was registered and there were 5 Pierce-Arrows, 8 Marmons and 7 Packards. In more nearly the average price field, the Chandler and Hudson put up a terrific battle, the records giving Hudson 44 sales and Chandler one less. The Nash has been coming to the front rapidly in this territory, and 51 sales were reported last month.

Selling cars is a mighty fine business, the dealers say, but after having practically no business for several months now that indications are favorable an actual car shortage is staring distributors in the face. And when distributors cannot get cars from the factories the dealers are hard hit. Some of the dealers who hustled like blazes to get rid of their stock in anticipation of changed models and quantity production are now anx-

iously holding the bag. They have orders on file but can't get cars to fill them, and the competitor who can bring enough influence to bear on his distributor to get a car is a constant menace as customers can't be stood off indefinitely.

The situation is becoming serious. A canvas among distributors to-day revealed it to be as follows:

Hawley, King & Co., Oakland—A trainload shipment is en route, but we have orders on hand for 26 carloads. This shipment will leave us with only a 2 weeks' surplus, and there is not another carload rolling. The summer months look dark.

Earl V. Armstrong, Inc., Chandler—We are entirely sold out of everything but a few touring cars. Have to borrow closed cars from owners to demonstrate. Retail dealers are clamoring for cars.

Greer-Robbins & Co., Hupmobile and Chalmers—We have more than a hundred Hupmobile orders on our books and not a car to deliver. We were better stocked on Chalmers, but they are cleaned out now.

Ralph Hamlin, Inc., Franklin and Scripps-Booth—There seems to be no chance of our getting enough Franklins to meet the demand. The factory cannot build cars fast enough. We are in a little better shape on Scripps-Booth, but the supply won't last long.

J. W. Leavitt & Co., Oldsmobile—We cannot fill orders on six-cylinder models. The only deliveries we are making are on cash business. The demand for eights will rid us of stock soon. Shipments on the way will help but slightly.

Howard Auto Co., Buick—For more than 3 months we have not had enough cars to catch up with the orders. Sub-dealers are literally begging for cars and we can't do anything for them.

Don Lee, Cadillac—Our advertising calls attention to a shortage of cars being in prospect and deliveries are being made in rotation.

Albertson Motor Car Co., Dodge—Cutting out free service entirely has not diminished the demand. We are far behind in deliveries.

Maxwell & Hoffman, Studebaker—Our business has been wonderful. We are using every means possible to get cars, but are behind on deliveries.

Chevrolet Branch—We are almost keeping pace with orders, but the Oakland factory is working day and night to keep up.

Harold L. Arnold, Hudson—Two carloads stand between us and nothing. The only models we have been getting were enclosed jobs. The demand for Maxwells and Essex is going to bring about a shortage in these lines.

Troy Motor Sales, Nash—We are not getting any stock. Sales have been growing each month.

Apperson Motor Car Co., Apperson—The stock of standard models has been exhausted. A few anniversary models is all we have.

International Mack Corp., Mack Trucks—Every time we get a shipment we have to draw lots to see who gets the trucks. Best business in history. The first three months this year show an increase of 500 per cent over the same period last year.

Some of the other distributors are entirely out of one or two of the most popular models. One of the biggest distributors has stopped his advertising because of lack of cars. Factories send word that there is no chance to increase allotments. The tractor dealers also are complaining of a shortage.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

Charles L. Davis, formerly manager of the Milwaukee branch of the Winton Co., and previously for many years sales supervisor for the Winton factory, has accepted the position of sales manager of George W. Browne, Automobiles, Inc., Milwaukee, Overland and Willys-Knight distributor.

Alfred Reeke, head of the Alfred Reeke Co., 455-465 Broadway, Milwaukee, distributor and dealer in Nash passenger and commercial cars, has been elected a director of the Retail Division, Milwaukee Association of Commerce, for a two-year term.

H. L. Brubaker, manager of the Madison branch of the International Harvester Co., has been transferred to the general offices at Chicago. He is succeeded by B. B. Repert, who has been manager of the branch at Dubuque, Iowa, for several years.

William Bedors, Kenosha, has been appointed manager of the service department of the Nash Cincinnati Motors Co., Cincinnati. He has been with the Nash interests and predecessors for 6 years.

J. G. Wilmoth has been appointed manager of the Philadelphia branch of the Buick Motor Co. Earl B. Wilson, retiring branch manager, has been promoted to an important position with the Buick company at Flint, Mich. Wilmoth comes from the Chicago Buick branch.

W. L. Baumbach has sold his interests in the Badger Tire Repair Co., South Bend, to become manager of the central district for the International India Rubber Corp., South Bend.

H. S. Lyons, who for 2 years prior to his entry into the aviation service had charge of the sales of C-H electric devices in the territory covered by the Chicago office of the Cutler-Hammer Mfg. Co., Milwaukee, has received his discharge and returned to the employ of the company, doing sales work in the magnetic gear shift department.

Edwin Denby, president of the Denby Motor Truck Co., Detroit, late major of Marines, has resumed his duties as head of his company after 18 months' army service.

Arthur J. Peebles, former Special Representative of the Goodyear Tire & Rubber Co., has been made general sales manager of the Armstrong Rubber Co., Garfield, N. J. Peebles has traveled widely in connection with the rubber business and is also known to the trade as the former secretary of the Ohio Automobile Trade Association and an active worker in the affairs of the old National Automobile Trade Association.

W. E. Marvel of the Service Motor Truck Co. has been appointed district manager for the company in Utah, Colorado, Wyoming and parts of Mexico and Idaho.

W. R. Eaton, formerly district sales manager of the Moon Motor Car Co., St. Louis, has resigned to become president of the Aconite Tire & Rubber Co., St. Louis.

Matt R. Korshin, who for a number of years was eastern district sales manager for the Atterbury Car Co., Buffalo, has become western sales manager for the Selden Truck Sales Co., Rochester, with headquarters at 2334-2336 Michigan Avenue, Chicago. He succeeds A. R. Kroh, who left to become associated with the Goodyear Tire & Rubber

Co., Akron. As western sales manager, Mr. Korshin will be in charge of the dealers' organization in Illinois, Indiana, Wisconsin, Minnesota, North and South Dakota.

I. P. Schuyler, for the past five years district sales manager of the American Ever Ready Works, has resigned to become manager of the accessories department of the Northern Electric Co. of Minneapolis and Duluth.

R. A. Loftus has been made factory representative of the Hession Tiller & Tractor Corp., Buffalo, maker of the Wheat tractor. He was previously assistant sales manager of the Cleveland Tractor Co.

L. B. Cravath, formerly Western sales manager of the Cleveland Tractor Co., has resigned that position to become vice-president and general manager of the Hession Tiller & Tractor Corp., Buffalo, makers of the Wheat tractor.

H. H. Burger is now in charge of the Stewart Products Co., Cleveland, as manager. This company, which has been operated as a Stewart-Warner factory branch, has been changed to a service station.

E. A. Wales, formerly chief of production motors division, Quartermaster's Corps, Cleveland, has re-entered the employ of the Raybestos Co. of Bridgeport, Conn., and will resume his pre-war duties as manager of its Detroit office.

K. W. Macra, for the past 5 years in charge of the Canadian sales for the Saxon Motor Car Corp., has tendered his resignation to take effect at once.

Frank R. Farnham has been elected vice-president of the Rex W. Wadman organization. He was formerly sales and advertising counsel of Hollister-White & Co.

Dale Chessman has been made sales manager of the Oregon Motor Car Co., Portland.

F. M. Leeston-Smith has resumed his duties as vice-president and general manager of the Oregon Motor Car Co., Portland, following his return from France, where he was in the tank corps.

C. M. Menzies has been made secretary-general manager of the Manley Auto Co., Portland, and has acquired a half interest in the firm. He recently resigned as general manager of the Northwest Auto Co., Portland, to become factory representative for the Bethlehem Motors Corp., with headquarters in Denver.

C. F. Rouze, formerly sales manager for the Knox-Martin Tractor Co., has been placed in charge of the sales promotion department of the General Motors Truck Co., Pontiac.

Charles Kuehn, who has been with the Packard advertising department for a number of years, has been placed at the head of advertising and sales promotion department of the Packard Detroit branch.

R. L. Rice, who has been on the force of the Universal Car & Service Co., Grand Rapids, has resigned to take over the western Michigan distribution of the Jumbo truck.

R. E. Flick has been made general superintendent of the garage and service department of the Golden Motor Sales Co., Grand Rapids.

William M. Hartford, Seattle, has been appointed manager of the truck department for Shields-Livengood Motor Co., Seattle. Hartford was formerly with the International Harvester Co. of Chicago.

W. B. Doan, former distributor of Saxon and Paige cars in Portland, has been appointed sales manager of the W. S. Dulmage Motor Co., Chevrolet distributor, Seattle.

W. J. Peterson, formerly service manager of the Philadelphia branch of the Goodyear Tire & Rubber Co., is the new manager of the Goodyear branch in Cincinnati.

W. E. Farr has been made manager in Seattle of the International Mack Corp., distributing Mack trucks, succeeding T. G. Young, who has resigned.

George Gunn, former distributor for the Kelly-Springfield motor truck at Tacoma under the firm name of Gunn Motor Co., has recently accepted the position of general manager of the Kelly-Springfield Sales Co., Seattle.

William R. Blackburn, formerly factory manager of the Cadillac Motor Car Co., Detroit, has assumed the position of manager of the Gray Motor Co., Detroit. He was connected with the Cadillac company for twelve years.

W. F. McLaughlin has been appointed factory superintendent of the Hyatt bearings division of the General Motors Corp. at Harrison, N. J.

George M. Howard, recently associated with the L. S. Bowers Co., Philadelphia, has been appointed salesmanager of the Keystone Auto Sales Corp., distributor of Studebaker cars for the territory.

S. Bloom has been appointed director of the Essenkay Products Co., Chicago. For the past year he has been in military service, and previous to that was in the advertising business both in America and Australia.

Thomas R. Hutchins, Quincy, Ill., who has been president of the Quincy Auto Trade Association, has resigned the position of service supervisor for the Willys-Overland Co., with headquarters in St. Louis. For several years, he has been service manager for the Overland Co. at Quincy. In his new post he will be required to install with each distributor in the St. Louis territory a new system of accounting and service methods.

P. S. Russell, formerly general sales manager for Hale & Kilbourne, Philadelphia, but more recently with the army, has been appointed manager of the new Packard Motor Car Co.'s branch at St. Louis, Mo.

Harry M. Gardiner, General Motors Corp., has been appointed successor to H. J. Spreat, works manager of the Olds Motor Works, Lansing.

A. J. Wise, formerly with the F. B. Stearns Co., Cleveland, and later with the New York branch of the Paige-Detroit Motor Car Co., has been made manager of the New York organization.

### Bradley Is Back

NEW YORK, April 22—L. M. Bradley, former manager of the Motor and Accessory Manufacturers Association, who was obliged to leave his position about Jan. 1 and go to Daytona, Fla., because of a breakdown following influenza, has returned to New York. He has regained his old-time health and looks remarkably well. He will make his future plans public soon.



## TRACTORS MUST SUIT THE FARMER'S NEEDS

### North Dakota Passes Law Giving Buyers "Reasonable Time" to Find This Out

FARGO, N. D., April 22—Hereafter North Dakota farmers who purchase tractors are to be given a "reasonable time" in which to decide whether they are satisfactory or not.

At the last session of the North Dakota Legislature a bill was slipped through giving them this privilege, and the bill has been signed by Governor Frazier. Under the terms of the measure the purchaser is given "a reasonable time after delivery for the inspection and testing" of the machine, "and if it does not prove to be reasonably fit for the purpose for which it was purchased the purchaser may rescind the sale." Following is the complete text of the bill:

**Section 1. Reasonable time to discover defects.** Any person, firm or corporation purchasing any gas or oil burning tractor, gas or steam engine, harvesting or threshing machinery for their own use shall have a reasonable time after delivery for the inspection and testing of the same, and if it does not prove to be reasonably fit for the purpose for which it was purchased the purchaser may rescind the sale by giving notice within a reasonable time after the delivery to parties from whom any such machinery was purchased, or the agent negotiating the sale or made delivery of such personal property or his successor, and placing the same at the disposal of the seller.

**Section 2. Provisions contrary to the preceding section void.** Any provisions, any written order or contract of sale or other contract which is contrary to any of the provisions of this act is hereby declared to be against public policy and void.

Some little apprehension is felt over the indefinite language of the bill. It is thought that interpretations will be generally in favor of farmers who may be disgruntled or dissatisfied over some little thing which might ordinarily be fixed at very small expense.

Despite the possibility of remedying such slight defects, however, the bill specifically gives the farmer the right to refuse the manufacturer the privilege of making them. Tractor men feel that they face a serious situation.

As a companion to this law another was passed by the same Legislature and also signed by the Governor which provides that manufacturers selling tractors in North Dakota must maintain at least one supply depot within the state and keep in it a full and complete stock of repairs. Following is the text of the measure:

**Section 1.** On and after the taking effect of this act it shall be unlawful for the manufacturers of any gas or oil burning tractors, steam or gas engines, harvesting and threshing machinery, automobiles and auto trucks, to sell or deliver within this state any such gas or oil burning tractor, steam or gas engine harvesting and threshing machinery,

automobile or auto trucks without having first established at least one supply depot within the state where shall be kept constantly on hand a full and complete supply of repairs for the same.

Any manufacturer selling or delivering or causing to be sold or delivered any such machinery in violation of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$25 and not to exceed \$200 for each offense.

### Why Prices Can't Drop

(Continued from page 11)

IS IT PROBABLE THAT THESE TWO FORMS OF CURRENCY CAN BE OR AT LEAST WILL BE REDUCED IN THE NEAR FUTURE?

The governments of the world, which were paying less than *two billion dollars* a year of interest on national debts at the beginning of the war, are now paying and must continue to pay a total of over *ten billion dollars* a year in interest, and at the same time all other expenses of governments have advanced.

Official estimates of the "budgets" or expense accounts of several of the principal countries for the coming fiscal year have already been announced and indicate that their necessary expenses in the first full year of after-war peace will be about *four times as great as in the year preceding the war*.

Present indications are that the governments of the world will be compelled to collect in taxes from their people about *fifty billion dollars a year*, as against about *twelve and one-half billions* in 1913, or say a billion dollars a week, as against a billion dollars a month before the war, and this does not include anything for "sinking funds" or other provision for reduction of outstanding debts.

If this be true is it probable that the governments in those countries which have greatly increased their circulation and must now demand such enormous increases in annual payment of taxes will find it advisable or possible to materially reduce the amounts of currency available for such payments?

### Small Hope for Reductions

If the governments which have been the chief participants in the world increase of currency should fail to materially reduce that excessive supply, and if the world's demand for food, manufacturing material and manufactures is to continue at the present rate, are we justified in expecting a general reduction in prices in the near future?

The question I think answers itself. There will, of course, be instances in which there will be material reductions, *but in general terms the outlook for marked or rapid decline, at least in the near future, does not seem encouraging.*

## UNUSUAL ACTIVITY IN USED CARS IN CANADA

### Shortage of New Cars and High Taxes Bring Great Demand for Used Machines

OTTAWA, April 19—Not for many years has there been such activity in the used car business as has been reported this spring, and perhaps never before in the history of motoring have there been conditions such as are faced at present. Ever since the outbreak of war the used car business has been leaping ahead, but this season it is more energetic than ever.

There are many things which have created this situation. In the first place, owing to price advances, a new car, except in the cheaper grades, has been put quite beyond the reach of hundreds of citizens who a few years ago would have been able to purchase. The car which sold for \$800 or \$900 three or four years ago now runs anywhere from \$1,200 to \$1,400. That has accordingly boosted the used car business.

### Tax Discourages Purchasers

In the second place there are a great many people who want to own cars but who shrink from paying the 10 per cent war excise tax charged by the Dominion Government on the new car, and which does not hit the used car purchase. Ten per cent on a car is a serious matter. The third reason for the unprecedented turnover in the used car is the limited production in the new article which has prevailed all through the States, and accordingly in Canada, for the past two seasons. A great many people who would ordinarily turn up their noses at the used car have found themselves practically forced into this market by circumstances.

### Used Cars Bring High Figures

The result of it all has been to create an abnormally stiff price for used cars, and just how long this condition is to exist will depend on the speed with which the manufacturers get back from war contracts and step once more into car production with full energy. It is not at all uncommon these days to hear a man say he has disposed of a car at a higher figure than it would have commanded a year ago, provided, of course, it was not a new one then, while there have been cases reported where owners sold cars, after a year and half's use, at a higher price than they paid for them when they were new. The latter, of course, is unusual.

While there is plenty of activity reported in all grades of used cars, the unusually high prices appear to prevail to a greater extent with the higher-grade car. This is due to the fact that it was the more expensive cars which were refused admission to Canada for several months and on which production was curtailed to a greater extent than on the cheaper grades.



## COMING EVENTS

### Passenger Car and Truck Shows

Bristol, Va.-Tenn.....May 10-17 .....Cars, Trucks, Tractors, Airplanes and accessories.  
Bristol Chamber of Commerce. C. W. Roberts,  
Manager.

### Foreign Shows

Paris, France.....Oct. 15 .....Grand Palais—International Automobile Manufac-  
turers' Congress.  
London, England.....November .....Olympia—International Automobile Manufacturers'  
Congress.

### Meetings

St. Louis, Mo.....Apr. 28-May 1.....Convention, Chamber of Commerce of United States  
Washington, D. C.....May .....Pan-American Commercial Conference, Pan-Amer-  
ican Union Bldg.  
Chicago, Ill.....June 2.....National Gas Engine Assn., Hotel Sherman.  
Hot Springs, Va.....June 2-6 .....Convention, Automotive Equipment Assn., Home-  
stead Hotel.  
Ottawa Beach, Mich.....June 23-27.....Summer Meeting, S. A. E.  
Philadelphia, Pa.....Sept. 22-25.....Annual Convention, National Association of Pur-  
chasing Agents, Bellevue-Stratford.

### Exhibits

Venezuela, S. A.....May 15-June 1.....National Exhibit of Venezuela.

### Races

San Bernardino, Cal...Apr. 24 .....Rim of the World Hill Climb.  
Uniontown, Pa.....May 17 .....Probably 112½ miles.  
Indianapolis, Ind.....May 31 .....500-Mile Sweepstakes, Indianapolis Speedway.  
\*Sheepshead Bay, N. Y. June 14 .....Speedway.  
Cincinnati, O.....July 5 .....Speedway.  
Uniontown, Pa.....July 19 .....Mid-Summer Meet, Speedway.  
Sheepshead Bay, N. Y. July 26 .....Speedway.  
\*Middletown, N. Y. Aug. 15 .....Dirt track event.  
Elgin, Ill.....Aug. 22-23 .....Road race.  
Sheepshead Bay, N. Y. Aug. 23 .....Speedway.  
Uniontown, Pa.....Sept. 1 .....Speedway.  
Sheepshead Bay, N. Y. Sept. 20 .....Speedway.  
\*Allentown, Pa.....Sept. 27 .....Dirt track event.  
Cincinnati, O.....Oct. 1 .....Speedway.  
\*Trenton, N. J.....Oct. 4 .....Dirt track event.  
\*Danbury, Conn.....Oct. 11.....? .....Dirt track event.  
\*Tentative dates.

### Tractor Demonstrations

Walla Walla, Wash...Apr. 23-25 .....Sectional Tractor Demonstrations.  
Fresno, Cal.....Apr. 29-May 1-4.....Central California Tractor and Implement Assn.  
Sacramento, Cal.....May 5 .....Sectional Tractor Demonstrations, Demonstration  
Field.  
Denver, Col.....Early June .....Sectional Tractor Demonstrations.  
Wichita, Kan.....July 14.....Automotive Committee of National Implement  
Assn.  
Aberdeen, S. D.....Early August .....Sectional Tractor Demonstrations.  
Ottawa, Ont., Canada. October .....Inter-Provincial Plowing Match and Tractor Dem-  
onstration.

### Aeronautical Exhibition

Atlantic City, N. J....May 1-June 1 .....Second Pan-American Aeronautic Convention and  
Exhibition.

### Hit Bad Bills on Coast

SAN FRANCISCO, April 21—The trade in this State has been very busy during recent months combating undesirable legislation. Among the bills that were killed was one which would have prohibited the use of a paint-spraying machine.

Another bill would have compelled the recording of all lease contracts and car sales agreements. It would have restricted the selling of cars considerably.

Another bill would have compelled the publication of all such matters—it also was killed.

Another bill proposed the registration of all automobile mechanics. This also was stopped.

Still another bill would have required that the seller of goods on a lease contract or installment payment plan return to the buyer the initial payment on making the sale before he could foreclose or demand the return of property because of delinquency in payment. This would have meant that before a dealer could foreclose on a partial payment car

he would have to give the buyer all his money back. This bill was killed without a great deal of trouble.

### To Market New De Dion Models in U. S.

NEW YORK, April 18—New models of the De Dion Bouton will be placed on sale in America by the end of June, under the direction of Emmanuel Lascaris. J. H. Stelling will be sales manager. The new De Dions have been considerably improved, though they are still built about the familiar V-type eight-cylinder engine. Cylinders are 70 x 120 mm.; wheelbase, 134½, and tires, 34 x 4½. The four-speed gearset is now a unit with the engine, and the car has a conventional rear axle system and is equipped with a single unit electric lighting and starting system. In August the De Dion Bouton company will market a new eight-cylinder, 12-30-hp. car which will follow the same general design. And in December a Grand de Luxe model with 16 cylinders will be brought out.

### Hill and McShane Join Hands

CHICAGO, April 19—Two former racing men have combined forces to enter the motor car trade in Chicago. One is Arthur J. Hill, formerly American representative for the Peugeot in New York, who was responsible for bringing Dario Resta to this country. He also directed the fortunes of the Hudson racing team in 1917. As a partner he has Felix J. McShane, builder and manager of the Omaha Speedway and Omaha distributor for the Mercer and Hupmobile. The McShane-Hill Co. will handle the Liberty and Biddle.

### Merge SKF and Hess-Bright

NEW YORK, April 17—The SKF Administrative Co., which was formed in May, 1917, to consolidate the interests of the SKF Ball Bearing Co. had the Hess-Bright Mfg. Co., has been merged with the Atlas Steel Ball Co. into a new company to be known as SKF Industries, Inc. The Atlas company had for some time been controlled by the SKF company.

The immediate purpose of the merger which brings together the sales and executive departments of the three companies is to facilitate the carrying on of important research work. For this purpose ground is being broken this week adjacent to the Hess-Bright plant in Philadelphia. The merger will not affect the financial status of any of the companies and is largely to simplify merchandising problems. Heretofore Hess-Bright and SKF bearings have been sold separately and in competition. Hereafter they will be sold by the same sales organization, with the assistance of the research and engineering laboratory and not in competition. Both names will be perpetuated, Hess-Bright for the company's deep-groove type of bearing and SKF for its double-row self-aligning type. The establishment of the laboratory permits the company to give scientific advice on anti-friction matters, entirely divorced from the sale of any specific type of bearings.

B. G. Prytz, who has been president of all three companies, is president of the new company. Associated with him are: Vice-president W. L. Batt, formerly vice-president of the Hess-Bright company; comptroller, J. P. Walsh; sales manager, S. B. Taylor, formerly vice-president of the SKF company. The company will consolidate its sales and executive offices at 165 Broadway, New York. The SKF, Hess-Bright and Atlas plants, the former in Hartford and the latter two in Philadelphia, will be maintained without change.

### Roskam Enters Truck Business

NEW YORK, April 21—I. E. Roskam, president of the Roskam-Scott Co., large used car dealer, has entered the motor truck business as well. With Frank M. Foster he has formed the Foster-Roskam Co. and will distribute Winther and Commerce trucks in and around New York. He will continue his interest in the Roskam-Scott Co.



Farm Tractors

MOTOR WORLD GUIDE

Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capac y	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capac y
Acme	12-24	6,000		W	4	Beaver	4	4 1/2 x 6	G or K	3	Elgin	12-25	3,300	\$1385	W	4	Erd	4	4 x 6	G K or D	2-3
Alta-Chalmers	6-12	2,100		W	2	Ow	2	4 1/2 x 4	G or K	1	Fagel	8-12	3,301	1500	W	4	Overland	4	4 1/2 x 5	G, K or D	2-3
Alta-Chalmers	10-18	4,800		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Famer Boy	10-20	3,600	1350	W	4	Waukesha	4	4 1/2 x 5	G, K or D	2
Alta-Chalmers	16-30	5,300		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
All-work	14-28	4,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
American	16-30	4,975	\$1595	W	4	Beaver	4	4 1/2 x 6	G or K	4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Andrews	12-20	5,000	1000	W	3	Veau	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Appleton	12-20	4,900		W	3	Waukesha	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Atlas	16-30	7,500	1750	W	3	Waukesha	3	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Aultman-Taylor	22-45	12,500		W	4	Ow	4	4 1/2 x 6	G or K	4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Aultman-Taylor	30-60	23,000		W	4	Ow	4	4 1/2 x 6	G or K	6	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Austin	5-10	750		W & C	2	LeRoi	2	4 1/2 x 4	G or K	1	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Austin	12-20	3,500		W & C	2	Buffalo	2	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Austin	16-30	4,500		W & C	2	Assoc. Mfrs.	2	4 1/2 x 4	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Austin	20-40			C	2	Automatic	2	4 1/2 x 4	G or K	4-6	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Austin	75-125	25,000		C	2	Buffalo	2	4 1/2 x 4	G or K	2	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Auto Tiller	8-16	850	365	W	2	Ow	2	4 1/2 x 4	G or K	2	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	6-10	2,600	550	W	3	Ow	3	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary Cultiv.	8-16	3,050		W	3	Ow	3	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	8-16	4,500		W	3	Ow	3	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	12-25	7,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	14-25	6,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	18-36	9,250		W	4	Ow	4	4 1/2 x 6	G or K	5-6	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	25-50	12,500		W	4	Ow	4	4 1/2 x 6	G or K	8-10	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Avary	40-80	22,000		W	4	Ow	4	4 1/2 x 6	G or K	10-12	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Bates All-Steel	15-22	4,000		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Bates Steel Mule	15-22	4,500		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Bean Track Pul	6-10	3,100		C	1	LeRoi	1	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Beaman	11-14		285	C	1	Ow	1	4 1/2 x 4	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Beltrair	12-24	4,500		W	3	Waukesha	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Blumberg	12-24	3,500	1200	W	3	Waukesha	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Boring	15-30	6,900	1485	W	4	Ow	4	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Boz	20-40	7,600		W	4	Ow	4	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Brill	16-30	21,000	5500	W	4	Ow	4	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Buckeye	16-30	21,000	5500	W	4	Ow	4	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Buckeye	24-45	25,000	6500	W	4	Ow	4	4 1/2 x 6	G or K	3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Bull	12-24	5,000	1200	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Capital	15-36	4,000	1500	W	4	Ow	4	4 1/2 x 6	G or K	6	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	20-50	6,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	10-18	3,500	1200	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	10-20	5,050	1325	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	15-27	5,700	1600	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	20-40	14,000	3000	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	20-40	14,000	3000	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	19-18	4,800	1200	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Case	12-20	3,300	1585	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
C.O.D.	13-25	6,500	1395	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Coleman	16-30	4,295	1750	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Coleman-Sense	20-40	6,000	2200	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Craig	15-25	7,000		W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Creeping Grip	15-25	7,000		W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Dakota	15-37	5,300	1750	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Dart Blue J	16-30	4,500	1750	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Deming	16-30	4,500	1750	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Deming	12-22	4,200	1375	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Deming	20	4,400	2450	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Do It All	2-6			W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Eagle	16-30	7,100	1895	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Eagle	12-22	5,800	1545	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	9-16	4,260		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	12-20	4,350		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	12-20	6,500		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	12-20	6,500		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	40-65	23,000		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
E-B	40-65	23,000		W	4	Ow	4	4 1/2 x 6	G or K	2-3	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4

ABBREVIATIONS: "W" Wbe "C" Crawler "Dr" Drum "G" Gasoline "E" Kerosene "D" Distillate. Flow capacity varies in relation to operating conditions. Figures are based on 14 in. plows.



Trucks

# MOTOR WORLD GUIDE

Trucks

[illegible]







## Passenger Cars

## MOTOR WORLD GUIDE

## Passenger Cars

Mod. I	Motor	Ignition	Starting Lighting	WB	Tires	Rims	2- Pam.	5- Pam.	7- Pam.	Mod.	Motor	Ignition	Starting Lighting	WB	Tires	Rims	2- Pam.	5- Pam.	7- Pam.		
ALLEN Series 41	4-3125 Conn	A-Lite		112	32x34 SS		\$1195		\$1865	FRANKLIN 85	6-3124 A-Kent	Dyneto		115	32x34 SS		\$2400	\$2450	\$2450		
AMERICAN B	6-3125 A-Kent	West		122	32x34 SS		\$1835	1765	\$1865	GRANT G	6-3 244 Remy	Wagner		114	32x34		1120	1120			
AMERICAN BEAUTY	6-3125 G&D	G&D		121	32x34 SS					HARRON A-1	4-3124 A-Kent	Remy		106	30x34		1095	995			
ANDERSON 400-A-F	6-3124 Conn	Wetels		120	32x34 SS			1775		HAYNES 45	6-3125 Remy	L-N		127	34x34 SS		12495	2495	3350		
APPERSON 8-20	6-3125 Remy	Bijur		130	34x34 SS		4000		4000	4.	12-3125 Deleo	L-N		127	34x34 SS			12500	3250	4000	
ANNIVERSARY										HOLLIER 206	6-3124 Remy	Spilidori		114	32x34 SS			1785			
AUBURN 6-30-H-K	6-3124 Remy	Remy		120	32x34 SS		11595	1595		HOLMES	6-31-41 Esmanan	Dyneto		126	34x34 SS			2000	3000		
BELL										HUDSON Super-6	6-3125 Deleo	Deleo		124	32x34 SS			12500	2200	3000	
BIDDLE H	4-3124 A-Kent	Dyneto		114	31x34 QD		1145	1145		HUPMOBILE R	4-3124 A-Kent	Wetels		112	32x34		1335	1335	2135		
BRISCOE BA-24	4-3124 Conn	A-Lite		104	30x34 C		895	895		JACKSON 340	6-3 244 A-Lite	A-Lite		118	34x34 SS		11465	1465	1570		
BUICK H-4-44-47	6-3124 De-co	De-co		118	32x34 SS		1495	1495		JONES 28	6-3124 Remy	Wetels		125	34x34 SS		12350	2100			
H-4-49-50	6-3124 De-co	De-co		124	34x34 SS			1785	2555	JORDAN J-40	6-3124 Deleo	Bijur		127	32x34 SS			12475	2475	3500	
CADILLAC 57	8-3124 De-co	De-co		125	35x35 SS		3220	1220	3220	KING F	6-3 25 A-Kent	Bijur		120	34x34 SS			2550	2550	2150	
CASE U	6-3124 Wetels	Wetels		125	35x34 SS		12100		2100	KISSEL KAR Custom Built	6-3124 Remy	Remy		124	32x34 SS						
CHEALMERS 6-30	6-3124 Remy	A-Lite		117	32x34 SS		1565	1565		KLINE KAR 6-42-H	6-3124 Conn	Wetels		121	32x34		1865	1865	1865		
CHANDLER	6-3125 Bosch	Wetels		123	34x34 SS		11795		1795	LEXINGTON R-19	6-3124 Conn	Wetels		122	34x34 SS			1785	1785	2750	
CHEVROLET 400	4-3124 Remy	A-Lite		102	30x34 C		715	725	1185	LIBERTY 10-B	6-3124 A-Kent	Wagner		115	32x34 SS		1570	1720	1570		
FB D	4-3124 Remy	A-Lite		110	33x34 SS		1110	1135	1685	LOCOMOBILE 38	6-3125 Berling	Wetels		139	32x34 QD		15700	5500	5500		
COLE 870	8-3124 Deleo	Deleo		127	33x35 SS		2595	1295	3595	48	6-4124 Berling	Wetels		145	35x35 QD		16700	6600	6600		
COLUMBIA D-C-68	6-3124 A-Kent	W-Land		115	32x34 SS		11745	1600	2445	MADISON	6-3125 Remy	Remy		115	32x34 SS			1550			
COMET C-51	31-25 De-co	Dyneto		125	33x34 SS			1685		MAIBOHM B	6-3124 A-Kent	Wagner		116	32x34 SS			1290		1890	
CROW-ELKHART CE-36	4-3125 Conn	Dyneto		115	32x34 SS		1095	1095	1155	MAXWELL 25	4-3124 A-Kent	Stumme		109	30x34 C		895	895	1565		
CE-46	6-3125 Conn	Dyneto		116	32x34 SS		1295	1295	1355	MCPHARLAN	6-4126 Bosch	Wetels		126	35x35 QD		4300	14500	4300		
CUNNINGHAM V-3	8-3125 Deleo	Wetels		132	35x35 SS		14250	4750	4250	MERCER Series 4	4-3124 Berling	Wetels		123	32x34 QD		4250	14500	4500		
DANIELS B	8-3125 Wetels	Wetels		127	34x34 QDR		3750	3750	3500	MITCHELL E-40	6-3125 Remy	Remy		120	34x34 SS		11275	1275	2175		
DAVIS H J	3-3124 De-co	De-co		119	34x34 SS			11595	1595	E-43	6-3125 Remy	Remy		127	34x34 SS			1675			
J J	6-3124 De-co	De-co		124	34x34 QD			12050	2050	L	6-3125 Conn	A-Lite		118	34x34 SS		12000	2000			
DISPATCH G	4-3125 Bosch	USL		120	34x34 SS		11250	11200		G	4-4 26 Conn	A-Lite		122	34x34 SS		12500		2800		
DIXIE FLYER L-35	4-3125 Conn	Dyneto		112	32x34 SS		1095	1095	1450	MONITOR 6	6-3124 Dyneto			117	32x34		1475		1475		
DODGE BROTHERS 6-30	4-3124 Own	N.E.		114	32x34 SS		1085	1085	1750	MOON 6-46-19	6-3124 Deleo	Deleo		125	32x34 SS		12500		2500	3250	
DORRIS 11	6-4 25 Bosch	W-Land		132	35x35 SS			3750	3750	MURRAY 6-3125	6-3124 Deleo	Wetels		126	34x34		2800	2800	2800		
DORT ELGAR D.F.	4-3125 Conn	Wetels		104	30x34 QD		1925	925	1355	NASH 631-6	10-3125 Deleo	Deleo		127	34x34 SS		11490	1490	11595		
ELGIN B	4-3125 A-Kent	Dyneto		116	32x34 SS			1175	1175	684	10-3125 Deleo	Deleo		121	32x34 SS			1490	11595	2250	
ESSEX A	6-3124 A-Kent	Dyneto		116	32x34			1175	1175	NATIONAL Six	6-3125 Deleo	Wetels		126	34x34 QDR		12450	12450	2450	3120	
FORD T	4-3125 Deleo	Wagner		108	32x34			1395		OAKLAND 24-B	6-3124 Deleo	Bijur		125	34x34 QDR		13050	13050	3050	3720	
	4-3124 Own	Deleo		100	30x34 C		500	535			6-2124 Remy	Remy		112	32x34 SS		11075	1075		1650	

ABBREVIATIONS—"A-Kent," Alwater Kent, "Auto-Lite," Auto-Lite, "Conn" Connection, "G & D," Gray & Davis, "Esmanan," Esmanan, "L-N," Lees-Neville, "N.E.," North East, "Wetels," Westinghouse, "W-Land," Ward Leonard, "SS," Straight Side, "QD," Quick Detachable, "C," Clincher, "QDR," Quick Detachable Reversible. NOTE—30x34r means that the rear tires are 30x34 and the front are smaller.



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 5

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, APRIL 30, 1919

Fifteen cents a copy  
Two dollars a year

## Rx Goodrich 375

*Extra Size with less cost*

*Additional mileage*

*Extra air-room + Easier Riding*

*Improved appearance of car*

*Extra protection against Rutwear*

*Take four as directed before retiring  
Mr. Roads*

HAVE THIS PRESCRIPTION  
FILLED AT YOUR  
NEAREST DEALER'S

OLD DOC. ROADS  
OF  
EXPERIENCE TOWN  
ON THE PIKE

**GOODRICH TIRES** BEST IN THE  
LONG RUN



# DISTRIBUTORS AGENTS

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# The UTILITY

### Disappearing Truck Body for Fords

In 2 Seconds from  
Roadster to  $\frac{1}{2}$ -Ton Truck  
or Back Again

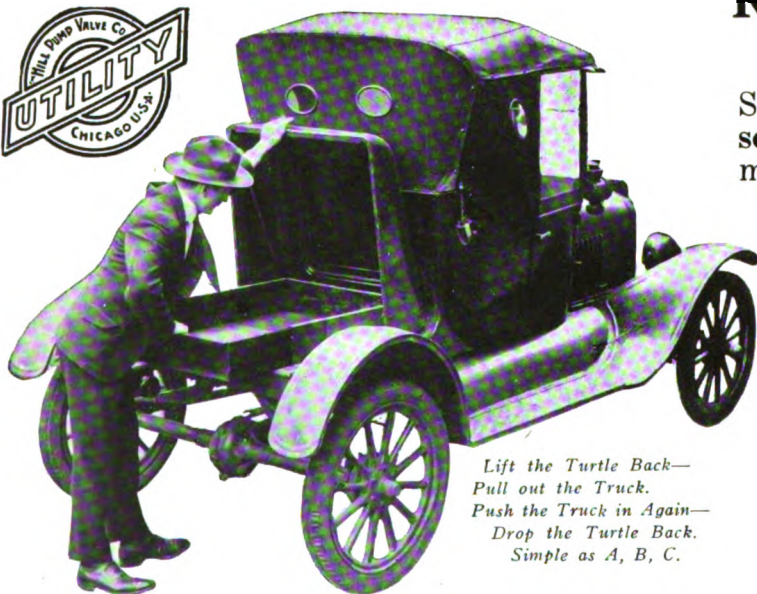
Start the season right—with something that sells. Be on the job with a necessity that every man in your territory with a hauling problem needs and wants to buy. Sell Utility Disappearing Truck Bodies for Fords.

### Get in on the Sales Early and Big

\$38.50 is all it costs to turn a passenger car into a  $\frac{1}{2}$ -ton truck that pays for itself in business and consequently runs itself free for pleasure.

Every Ford owner needs a Utility Disappearing Truck Body—every one can afford one.

The opportunity is now open for the first time to distributors and agents to get in on the profits that come this way—profits that are well worth while.



Lift the Turtle Back—  
Pull out the Truck.  
Push the Truck in Again—  
Drop the Turtle Back.  
Simple as A, B, C.

HILL PUMP VALVE COMPANY  
Archer Ave. and Canal St., Chicago, Ill.

I am interested in the UTILITY DISAPPEARING TRUCK BODY for Fords. By return mail tell me all there is to know about the chances for sales and profits.

Name .....

Address .....

City and State .....

Distributors Check Here ☐

Agents Check Here ☐

### Use the Coupon NOW

### Find Out All There Is to Know

## HILL PUMP VALVE CO.

Manufacturers of UTILITY Products

ARCHER AVENUE AND CANAL STREET

CHICAGO



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

Why Your Banker Should Help.....	8
How One Man Got \$100,000.....	9
Departmentize Your Business .....	10
Listen, Mr. Jobber's Salesman .....	11
An Idea for the Truck Dealer.....	12
How NOT to Sell Used Cars.....	13-14
Putting the Tractor Over .....	14-15
The Reilly Story .....	17
California's Trade Association .....	18-19
Flat Rates for Repairs .....	20-24
The Law .....	25
Editorial Observation .....	26
Letters from Readers .....	27-28
Better Mechanics .....	29-31
Repairshop Shortcuts .....	32-33
Automotive Equipment .....	34-35
Building Plans .....	36-37
Motor World Guide .....	49-52
News Pages .....	40-48
The Retail News .....	38-39

Advertisers Index on Pages 128-129



## "No, It Isn't Necessary to Send It to the Factory for Reboring—"

"We can do the job right here in our own shop and the bearings will be like new."

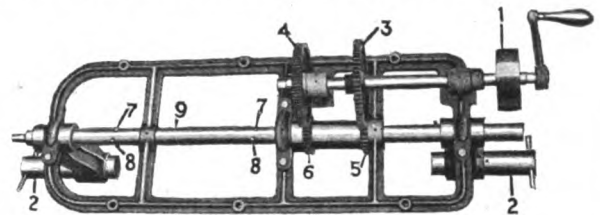
Think what it would mean to you in profits to be able to give your customers this kind of service. Think how much more often your customers would have bearings replaced.

Your repair foreman can earn big money for you with a Hempy-Cooper Reboring Machine and Rebabbiting Jig.

With this outfit he can equal the work of the factory in less than 45 minutes.

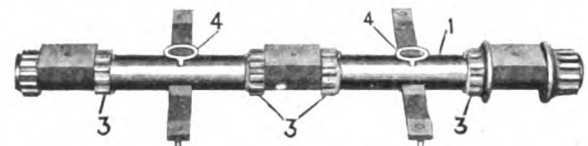
Read our proposition—Act TODAY—NOW.

## HEMPY - COOPER BORING MACHINE



1. Power pulley for use with power (power is not necessary however, as machine runs easily by hand).
2. Cam shaft centering pins, insuring accurate placing of machine.
3. Master drive gear, driving boring bar through pinion gear No. 5.
4. Master gear for driving feed control through pinion gear No. 6.
7. Cutting tools in boring bar.
8. Set screw holding cutting tools.
9. Boring bar.

## HEMPY-COOPER BABBITTING JIG



1. Babbitting shaft.
3. Eccentric locks for clamping babbitting shaft to cylinder bearings, preventing leakage of babbitt.
4. Handles for lifting jig.

**OUR PROPOSITION—** We'll send a man and machines to your station and rebores and recast any old Ford Cylinder Block or Fordson Tractor Block as good as the factory in 45 minutes if you'll agree to purchase if we make good—no obligation if we don't.

## HEMPY-COOPER MFG. CO.

Firestone Bldg., Gateway Sta., Kansas City, Mo., U. S. A.



# 102,000 Miles *and Still Running* Replacement Costs Less Than \$65

# Velie

Wayne, Nebraska,  
Feb. 19, 1919.

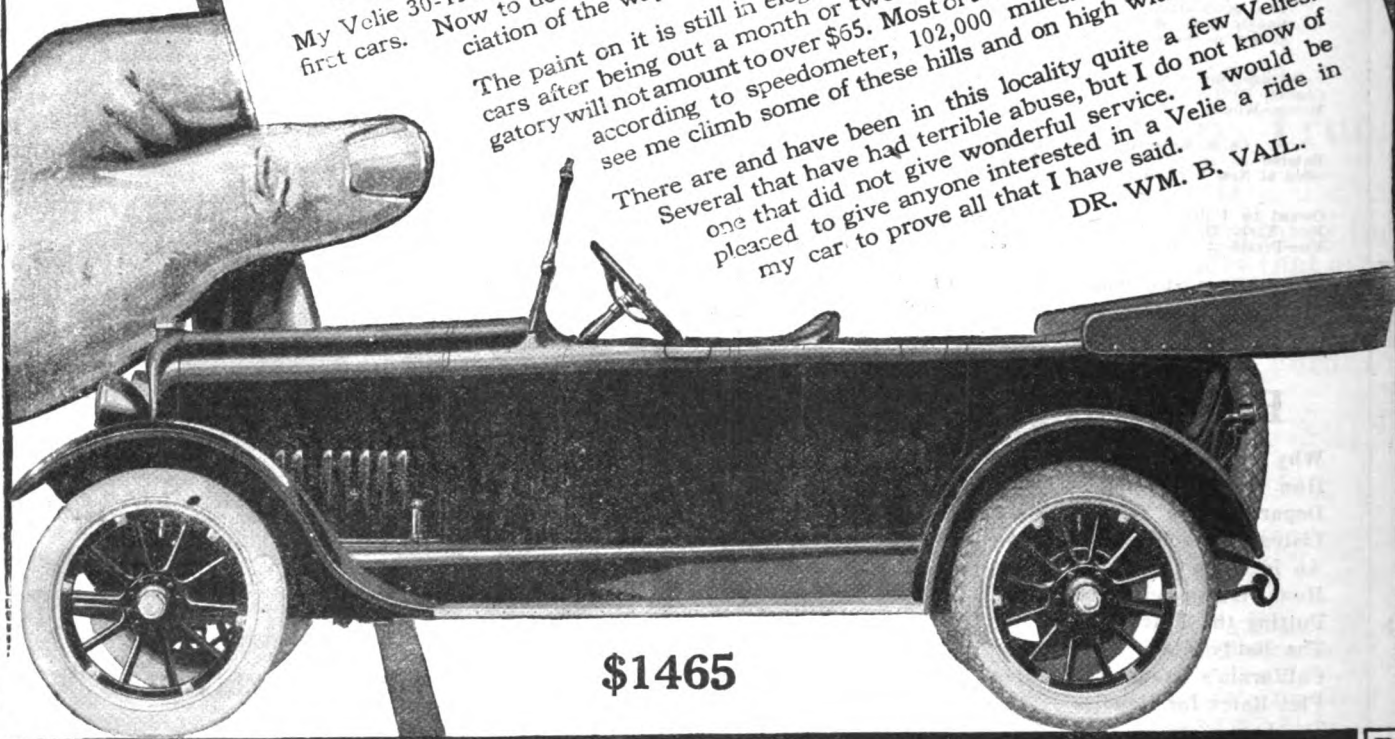
Velie Motors Corporation,  
Gentlemen:

My Velie 30-1909 car bears the number 234A. It must have been one of your first cars. Now to describe it and to show my success with it, and also my appreciation of the way it has served me these nearly ten years.

The paint on it is still in elegant shape and luster. It looks like most cars after being out a month or two. All replacement that was obligatory will not amount to over \$65. Most of that babbitt work. It has run, according to speedometer, 102,000 miles. I wish you could see me climb some of these hills and on high with this Velie.

There are and have been in this locality quite a few Velies. Several that have had terrible abuse, but I do not know of one that did not give wonderful service. I would be pleased to give anyone interested in a Velie a ride in my car to prove all that I have said.

DR. WM. B. VAIL.



\$1465

## This Is the Kind of Construction Values That Go Into Every Velie

Velie cars with their unequaled construction values have multiplied customers until all the resources of a mile of Velie factory are required to meet the demand. The bigger—better—more powerful Velie of 1919 is not matched at anywhere near its price in the whole light six field.

This is why the Velie franchise means more than ever to dealers. If your territory is open, write for details and the new Velie plan.

**VELIE MOTORS CORPORATION, 115 Velie Place, Moline, Illinois**

*Builders of Automobiles, Trucks and Tractors*



# WORTH WHILE RESULTS FOLLOW WORTH WHILE IDEALS

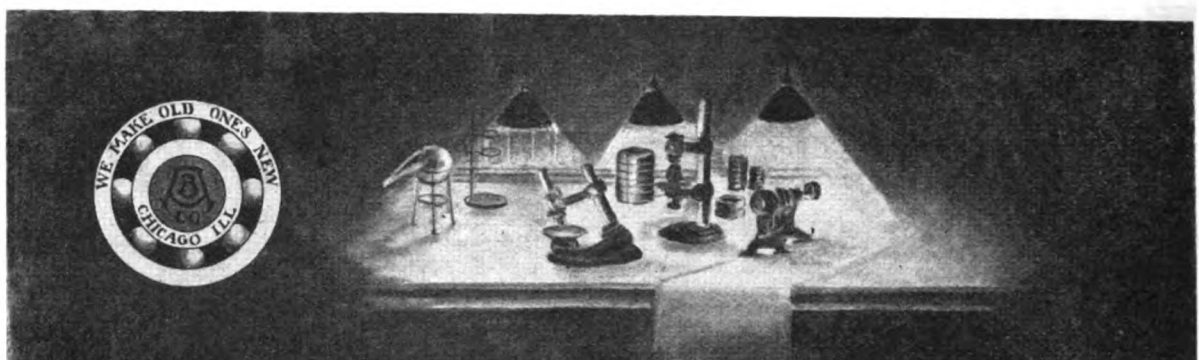

Good results in the operation of your business must grow from good ideals. The same principle applies to our business—to the publishing of **MOTOR WORLD**.

And that our subscribers may know exactly what standards of practice govern our conduct in dealing with subscriber and with advertiser we present herewith the "ten commandments" which constitute the "straight line" along which we have traveled during recent years—and along which we propose to travel during the years to come.

- 
1. *To consider, first, the interests of the subscriber.*
  2. *To subscribe to and work for truth and honesty in all departments.*
  3. *To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns and to make his criticisms constructive.*
  4. *To refuse to publish "puffs," free reading notices or paid "write-ups"; to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?"*
  5. *To decline any advertisement which has a tendency to mislead or which does not conform to business integrity.*
  6. *To solicit subscriptions and advertising solely upon the merits of the publication.*
  7. *To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements, subject to proper and authentic verification.*
  8. *To co-operate with all organizations and individuals engaged in creative advertising work.*
  9. *To avoid unfair competition.*
  10. *To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.*

**MOTOR WORLD.**



*Laboratory Plus Actual Service Tests  
Assure the Quality of*

## **Ahlberg Reground Bearings**

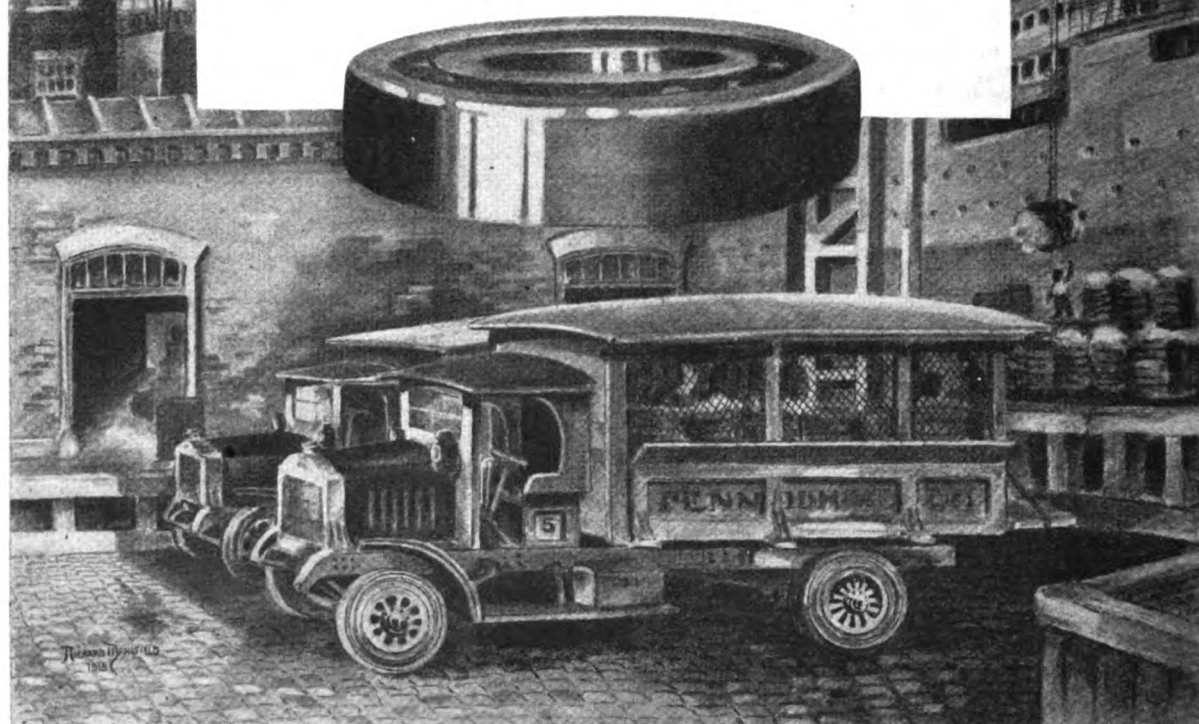
*Our Nearest Branch Has the Bearings  
You Need, Either New or Reground*

### **Ahlberg Bearing Company**

317-327 E. 29th St., Chicago

BRANCHES:

Atlanta	Boston	Cleveland	Detroit	Los Angeles
Minneapolis	New York	Philadelphia	Portland, Ore.	
	San Francisco	St. Louis		





# MOTOR WORLD

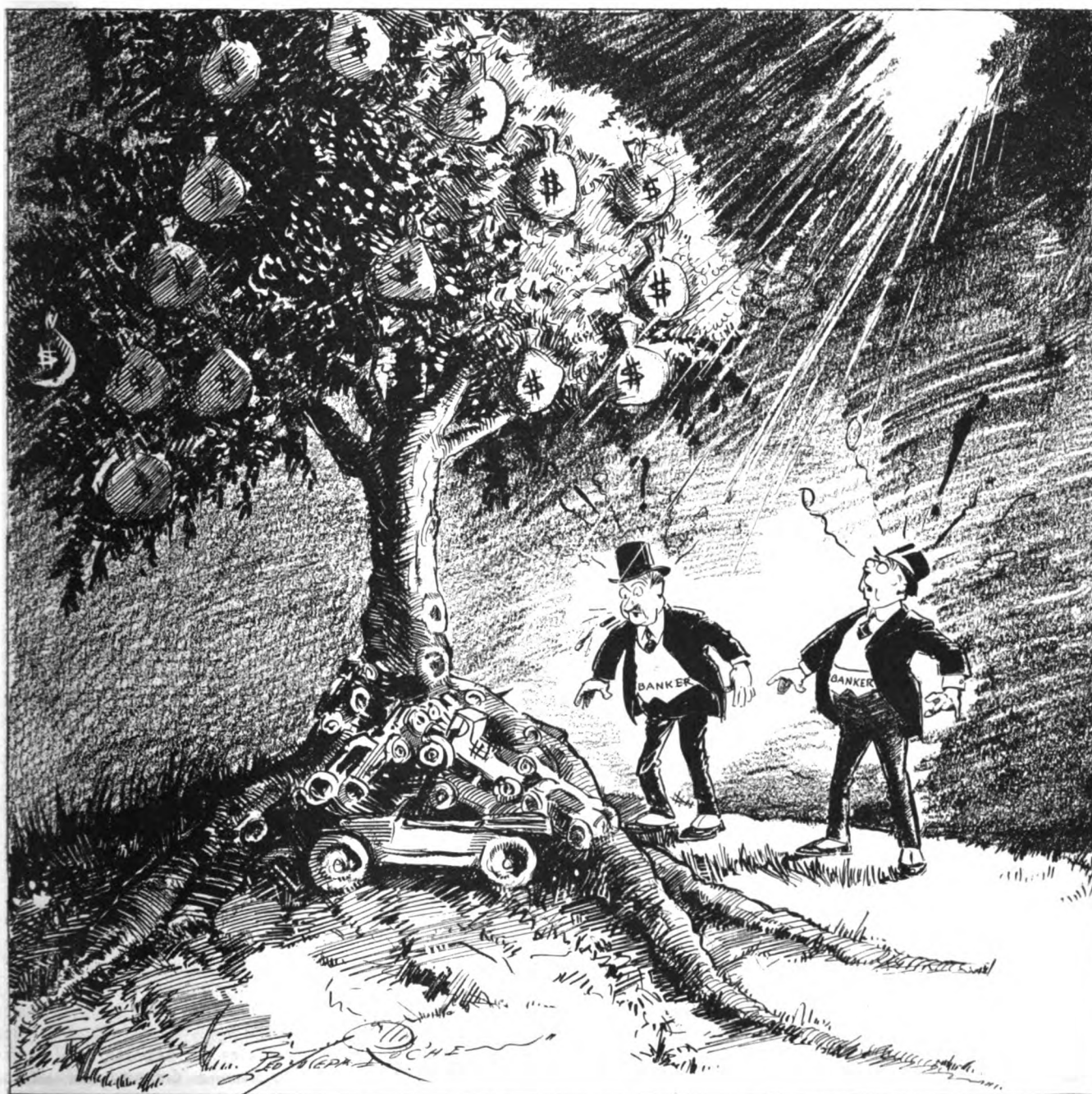
for  
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, April 30, 1919

No. 5

## The Light Is Breaking





# Why Your Banker Should Help You Sell Cars, Trucks and Tractors

**W**HAT one of America's leading bankers thinks of bank support for the sale of motor vehicles is printed herewith. It is an address before the Seventh Annual Convention of the Association of Reserve City Bankers in New Orleans delivered by Charles R. Talbot, vice-president of the National Bank of Commerce, Detroit. His address, in part, follows:

"I hope you will assist in discouraging the use of the remark that automobiles are liabilities and not assets, which is only an attempt to be funny when one examines a personal property statement," said Talbot. "The man probably uses the car in his business. Anyway, *I am for him who takes his recreation in his machine with his family out in the country where the air is fresh.*

## Local Bank Should Help

"This leads me to the thought that the banks are encouraging the organization of discount companies to handle the sales notes of passenger car, truck and tractor dealers, *when the local banks of each community should be financing these operations.*

"Each truck, tractor or passenger car coming into your community *tends toward the increase of values and the creation of wealth.* Why should not bankers encourage the purchasers and the dealers in getting wider distribution?

"Some bankers say it is unethical to assist in the installment payments. *I say that banker is not a help to his community.*

"About two years ago a tractor dealer, who is also vice-president of the local bank in an interior town, came in to see me. The cashier of his bank would not advance him one dollar on the notes of any farmer who purchased a tractor on time. It was economically wrong, he said.

**T**HE Time Will Come When Bankers Will See the Car and All That Goes with It as a Creator of Prosperity and They Will Want Folks to Buy Cars So That the Bankers Themselves May Be More Prosperous.

The Light Is Breaking Slightly Through the Clouds of Bank-opposition and in This Story a Banker of the NEW School Tells Why the Banker in Your Town Should Help YOU Sell Cars. Why Don't You Drop a Line to Talbot and Thank Him for What He Said?

## Helped Tractor Sales

"I wrote the banker asking him if it was patriotic to let his prejudice keep the fields of his community unproductive, suggesting that, if his bank could not measure up to the requirements of that agricultural vicinity, others might be interested in seeing whether a little competition might broaden his views. I understand since then he has loaned cash on 21 tractors and *has not lost a cent, has increased his bank deposits, and about 60 days ago addressed a small organization of Michigan tractor dealers on the subject of farmers' tractor loans.*

"In Detroit, many of the banks handle successfully time sales and chattel mortgaged secured notes on new cars. These bear the dealers' endorsement. They cover not more than two-thirds and often not more than one-half of the sale price. It is quite profitable, for, in addition to interest, one of your officers becomes an insurance agent, turning into the bank his premiums, for the bank does not make the loan unless the car is insured under its direction.

## Helped Used Car Sales

"Two of the officers in our bank and myself organized a company last year to handle time sales on used cars, the bank not caring to engage in this.

"We restrict our operation to Fords, and *have made 50 per cent on the general capital invested and created a reserve for losses of 10 per cent, our actual loss being \$25.*

"Various local Ford dealers are

small stockholders. The cars are insured against fire and theft. The dealer must agree to take back the car for the amount of the outstanding notes, and, inasmuch as our discount is less than that of the large companies, we have more business than we can do.

"Another phase which at this time should command careful consideration from the banking fraternity is the financing of the distributors and dealers for their local requirements. We are well aware of the fact that at certain seasons

of the year these dealers must store cars to supply properly the demand which comes with the spring rush. Why have we so little faith in the automobile as a collateral commodity and such a distorted and minimized vision of the purchasing power of our respective communities that we are unwilling to assist in the distribution of automobiles which we know from our year-to-year experience will be absorbed? *Why turn all of the profits from these attractive loans to the various discount companies organized because the banks are not progressive?"*

## Big Future Ahead

In speaking of the automobile future, Mr. Talbot said:

"From a war basis to a normal production we find ourselves with approximately 450 automobile manufacturers scattered throughout 32 states, with 12 of the 450 firms able to produce 80 per cent of the country's entire output. We follow a year when production was only 920,000 cars as against 1,740,000 in 1917. Granting that five years is the average life of a car, it would take more than the entire 1918 production to replace those which go to the scrap heap.

"On the basis that we all patriotically drove our old cars last year, we have two years of worn-outs to replace, or, in round numbers, 2,000,000 cars. Add to this the new eligible prospects and the as yet unscratched possibilities of exports, and it looks like a strong demand for years to come."



# This → and Bring In \$100,000 Per Year THIS

**Boston Cadillac Locates  
Them Strategically and  
Pulls in the Profits**

**T**HE Cadillac Automobile Co. of Boston believes in pushing accessory sales in its service station; receipts for this branch of the business are more than \$100,000 per year.

The service station, it should be explained, is entirely separate from the showroom and located nearly a mile from it. It occupies the basement and second floor of a large building.

Cars requiring attention are received and delivered in the basement, and customers for parts are looked after on the second floor, where the parts department is located.



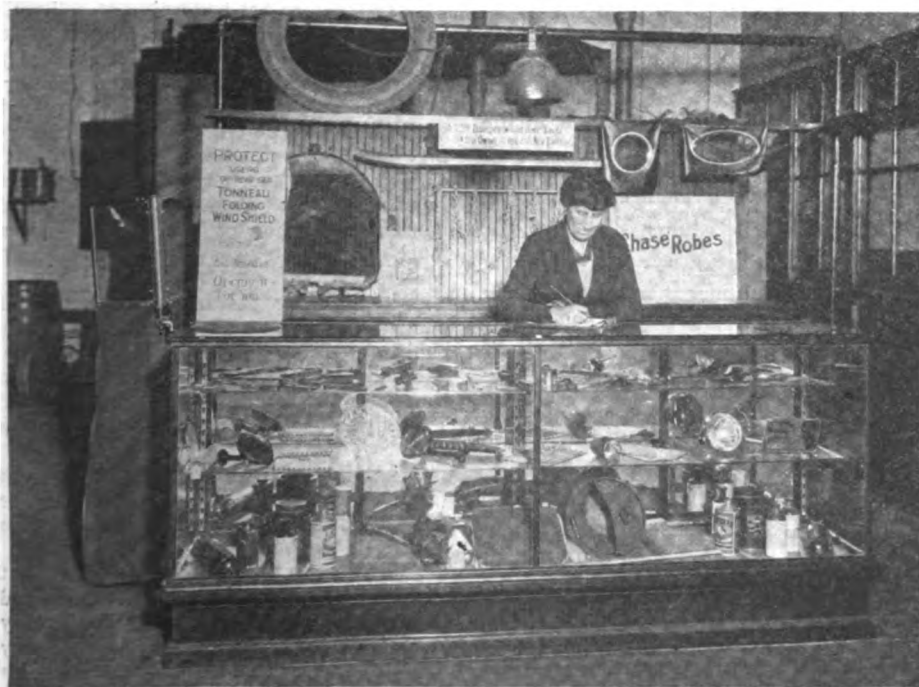
*This is the display case in the parts department. It is presided over by a girl. Clerks are paid a commission of 2 per cent on sales*

Therefore there are two separate and distinct streams of trade, one in and out of the basement, where customers or their chauffeurs come and go with their cars, and the other to the parts room. Hence in order to produce maximum results it was necessary to have an accessory stock at both places, and attractive showcases are maintained at both locations, their positions being quite strategic in each case.

The showcase upstairs is adjacent to the window where the customer receives his parts, and while he is ordering them and waiting for their delivery it is only natural, with his elbows resting on the glass top of the showcase, that he be attracted by some article in it.

The showcase downstairs is adjacent to the order office, where all orders for repair work are taken. It is right at the point where a man naturally stops his car when he drives off the elevator and it is the logical place where he and the clerk will discuss the details of the service work he is ordering.

To stimulate accessory sales as much as possible a commission of 2 per cent is paid to clerks who sell accessories. There are two girls in charge of the order office downstairs and the accessory department there, and upstairs there are usually one girl and two men.



*This show case is in the basement and faces the owner as he takes his car off the elevator. His natural stopping place is directly in front of the case*

## Can You Do It?

**I**F the Cadillac dealer in Boston can sell automotive equipment to HIS customers can't it be done in YOUR town in YOUR place of business?

Send Motor World a picture of your runway cabinet and tell us how much money it makes for you.



# Departmentize Your Business

## GEORGE WEBER SAYS:

*We have a dealer in a town of 5,000 who does a trade of \$200,000 a year because he has departmentized his business.*

## WHAT IS REQUIRED TO DO THIS? LET MR. WEBER ANSWER:

*Pick a man who knows the line and make him responsible under your direction.*

*Put a sample of the truck, tractor, or car, or implement you want to sell on the floor. The mail order house can beat you at the catalogue game.*

*Keep hold of the overhead lines yourself, but don't bother with the details. They are up to the department manager.*

## RESULT:

*It puts a big town profit in a small town business, if you use big town methods.*

"CAN the small town dealer sell motor cars, trucks, tractors and implements successfully? The question was put to George Weber, president of the Weber Implement & Automobile Co., St. Louis.

"Yes," answered Mr. Weber, "if he will put his money into a sample machine and display it. But he must have the machine on his floor, where prospects can see it, feel of it, examine it and get the touch. The small town dealer cannot sell from catalogs. If he tries that the big mail order houses who make their catalogs with a different view than manufacturers will take his trade. They understand the mail order selling. No man, for instance, must think because he buys a Maxwell car from us and, perhaps, uses for his own use, that he then has the agency for the Maxwell truck and other trucks and cars and tractors that we sell. He cannot do business successfully that way."

Before going any further, let's introduce Mr. Weber. He has been in the implement business for a good many years, and he has a big and growing business. He handles four lines of motor cars, two trucks, a tractor, accessories, implements, steam engines and lighting plants. He has a big rebuilding shop and does much painting and overhauling. He has a used car department that does business all the year round. He sells at both retail and wholesale. He has observed the dealer for a long time, and has seen some exceedingly successful ones develop and many others struggle along and eke out a living, and others that proved just failures. There is another class, too, those who have made a comfortable living in one or more of these lines and who decline to do more. Mr. Weber speaks as though some of these got on his nerves. But he has a large knowledge of human nature and does not betray impatience.

"Should such a dealer departmentize his business?" Mr. Weber answered:

"Most certainly. It is entirely different work, selling these lines. In selling

implements, you are selling labor. The tractor belongs with the implements, with some modification. Of course, to our small town dealers we expect to supply more or less of the expert knowledge. We have men traveling to do this. But there is no reason why the small town dealer should not learn to handle his own proposition.

"In selling a motor car the machine on exhibition is for sale. The prospect knows what he wants and he is familiar with the accomplishments of motor cars. He does not have to be educated. Association has done that. All that is necessary is to convince him that the car under examination is the car that he wants. He knows how many are to ride in it, how far he wants to travel, etc. He has been sold on the motor car proposition. It only is necessary to sell him this particular car.

## Must Sell Transportation

"But in trucks, there is the question of transportation to be sold. It also, in the small town, where the farmer is the likely purchaser, becomes in part a question of labor, closely connected with the tractor question, for the same points are involved.

"Now to successfully handle these different propositions, there should be a man in charge of each. The motor car selling is becoming less seasonal all of the time and we hope to make it much less so. The tractor selling is seasonal, coming as it does just before plowing time in the spring and fall. But there is other work, maintenance in summer and showing for the next season in winter. No time need be lost by a man in charge. He can be prospect hunting, selling or keeping tractors sold at all times of the year.

## Men Who Have Departmentized

"We have some dealers who have departmentized very successfully. I have in mind three in Illinois who have done exceedingly well. Two of them are in

towns of 5000 people or less. Important towns in farming communities. They run their various stores almost like separate institutions. One of these department stores must have reached a \$200,000 business last year. That is doing very well for a small town, I think. There is no reason why others cannot do it, if they put their minds and energy to the task."

The third store Mr. Weber referred to was in a city of 75,000.

But now comes the explanation of why more dealers do not departmentize successfully, expressed informally by Mr. Weber. He was asked how the four big items, motor cars, trucks, tractors and lighting plants were selling in the small towns.

"The motor cars are going fine," he said. "Of course, you know that everybody wants them.

"The tractors are beginning to sell well with the dealers. They are getting the idea and so are the farmers. Practically every farmer now is sold on a tractor. He may lack the money or he may not have seen just the tractor he intends buying, but he is a prospect.

"The trucks are not going well as yet in the country. With better roads and more appreciation of time, we expect a much bigger business through the small dealers.

"The lighting plants require a lot of educational work. We are doing a nice business through personal solicitation, and the dealers will do well in time when they become familiar with the product. The entire proposition is new to them as yet.

"The time will come when he will get familiar with this proposition, then he will sell them and reap a harvest. He will do a big business."

And you can put it down as a fact that Mr. Weber, after long experience and observation, believes it will well repay the small town dealer who has energy enough to do it to departmentize his business. Sell the whole line by organizing to sell it, is his view. That is what he has done.



*Mr. Jobber's Salesman:*

# Are You Shooting on Four?

By Allen B. Morris

The following article, "Shooting on Four," was written and read by Allen B. Morris, head salesman of the Oakland Branch of the Weinstock-Nichols Co. of California, at a recent meeting of the sales force, and the company was so favorably impressed with it that it was

passed along to all the salesmen in the organization. It is herewith passed along to all the other readers of Motor World. We say "other" because "every" Weinstock-Nichols salesman "gets" and "reads" Motor World every week and is a better salesman because of his study.

**T**O-MORROW morning I am going to march up to the mirror, stick out my chest, pat on it and tell myself all of the good things I know about me. I'm going to talk right out loud and recount all the swell things I've done for the house. I am going to let me know what a swell fellow I am. I'm going to look myself right in the eye and convince myself that I am a regular guy. When I get that all out of my system then—

I shall turn my back to the glass and have a few choice words with myself. First, I shall remind myself of one very important fact, namely, that there is only one fellow who really counts to this organization. The sign could be changed over the door, sweeping changes could be made in the personnel of every department and the business continued uninterrupted, providing one individual was retained. When that one important person leaves this firm, the doors will close, and in every window will be seen a "For Rent" sign. This one particular individual holds the destiny of this business in his hands—he is the CUSTOMER. When he quits, we are all through.

## Is He Doing His Bit?

Now, then, I want to know if I am doing my part to create and maintain a pleased clientele? Do my efforts please customers and cause them to return to this store, that I may wait on them again? Do I employ straight business principles to attain this end? Am I doing my full part to please the customer and help him to appreciate the painstaking care the management exerts to meet the requirements of the buyers of this particular line of merchandise? Am I sold on the policies of the firm? Am I sold on the plans of the chief? Am I courteous? Do I see to it that each customer I meet or wait on has the best of my endeavor? Do I know the goods I am handling? Do I use my mouth too much and my head too little? Do I try to make up in number what I lack in lightning?

Am I broad enough between the eyes to help rather than hinder the other fellow? Can I keep an even keel in a storm? Do I know how to retain my self-possession if the other fellow loses his temper? Have I mastered the art of being pleasant at all times? Can I smile a genuine smile and back it up? Can I be pleasant and agreeable without wasting valuable time for the firm or the customer?

## Is It Himself or the Organization

Am I working only to make a good showing for myself, or am I working for the success of the organization? How much real work do I do for the house without requiring a lot of supervision?

How far can I go on my initiative? Does it take me all day to do nothing, or can I find something profitable to be doing all the time? When I am asked to do a thing, do I do it in the best way and in the shortest time? Does every task and every customer get the best I have in the shop? Will I go the limit to please or accommodate a customer?

Have I mastered the art of assisting every customer to buy to the limit of his ability without offending him or making him feel that he is being overloaded? Can I present the merits of the article without talking the customer tired? Can I keep a customer's friendship?

## Is He Square?

Do I realize that too much can be said on the best of subjects? Do I talk UNITED STATES in a pleasing and convincing manner? Am I too much of a man to lie? Am I square with myself? Am I square with the house? Am I square with the customer? Am I square with fellow workers? Am I smart enough to know a better way than to criticise or find fault?

Am I big enough to assist the other fellows and take pride in their good showing? Am I business man enough to know that it takes a lot of good showings to make a good business? Am I

clever enough to act on a suggestion, or do I require a direct command?

Am I liberal enough to enter deeply into every task and make it worth while for the common good? Do I know how to get in and help shove the work along? Am I made out of the kind of stuff that is good material for the organization? Am I showing it?

Do I know the difference in value between sharp practice and fair dealing? Can I be relied upon to do my part in a pinch? When I finish a task, is it complete? Can I wait on a customer without neglecting something? Can I differ from a man without arguing with him? Can I clinch a point, can I convince a customer without displeasing him?

## Is He Cultivating Future Trade?

Am I making my friends who spend their money here friends for the house? Am I merchant enough to realize that the sale I make to-day should be a stepping stone for the larger sale that is possible for to-morrow?

Are my sales netting the firm the profits they have a right to expect? Am I as loyal to the house as I should be? Am I as loyal to the chief as he is to me? Am I only an employee or am I really working here?

Do I try to be efficient? Am I? Am I a storekeeper? Do I keep up my part of the general work? How much unnecessary work do I cause my fellow workers? Am I so small that I would rather have my own way than be right? Am I as generous with the other fellow as he is with me? Am I wise enough to know that a man is never bigger than his business ideas?

Do I know the difference between a show of authority and a display of judgment?

Are my clothes and manners clean enough to impress a stranger that I belong here, or do they suggest a country livery stable?

Can I make the grade?  
Am I shooting on four?



# USED CARS

**M**R. WILLIAMS for years has been manager of the Used Car Department of one of the largest automobile houses on the Pacific Coast, the Frank Waterhouse Company of Seattle, Distributer of Studebaker and Marmon cars. The following article was taken from a speech made at a dealers' get-together meeting and tells how *not* to sell used cars.

## *How Not to Sell Them*

*By C. R. Williams*

**W**E don't sell automobiles by offering a man a year's guarantee on any second-hand car which he may think of buying. We don't sell Marmons or Studebakers by offering anything longer than a 60 days' guarantee. Neither do we sell Studebakers or Marmons by offering any different guarantee than the standard factory warrant, which, as you know, states that the car is guaranteed against mechanical defects, but states that no guarantee of any description is given on the tires, batteries, etc.

We don't sell cars by equipping them with new tires all around; we feel that cars are traded in to us with tires which have seen a certain amount of service and they are still good for quite a lot of future service. We feel that it would be a waste of money to take these tires off and junk them.

### No Misleading Advertising

We don't sell cars by advertising cars which are not in our possession. That was one of the methods used in former days by some dealers to whom reputation is a secondary consideration; and although it may have brought a few people into the salesroom, that kind of advertising always had a tendency to leave a bad taste in the customer's mouth. It certainly did not help to build up the automobile business *as a business*. Neither do we ever advertise a car for a lower price than we will take for it. This is what we consider dishonest advertising. Some of you may not know it, but the advertising of cars that you do not have on your floor is not only wrong ethically, from an advertising standpoint, but it is also a misdemeanor under the state law. Someone has said: "The theory and practice of modern advertising is founded on truth." It should surely be so in the Used Car Department.

We do not sell cars from the second-hand department by telling a customer that some other make of car, possibly a new car which he is thinking of buying, is no good. There may have been in the

past a certain amount of knocking in the new-car business, but there has been very little in the Used Car Department. I know that there is very little around our establishment, and we certainly consider it poor form to take a rap to-day at some make of automobile which we may have to sell to-morrow.

We don't sell cars by demonstrations to West Seattle, Green Lake or some of the other suburbs. It is entirely unnecessary. It puts the cost of business up so high that we cannot keep prices down, and our demonstrations consist of 5- and 10-minute rides. Our experience of the past two years has proved to us that longer demonstrations, as far as the Used Car Department goes, are entirely unnecessary.

We don't sell cars by offering a man 16 months, 14 months, 12 months, 10 months, or 8 months in which to pay for the car. When a man asks for terms and wants to know what terms we can give, we tell him very frankly: "We want it all"; that if he cannot pay it all, we want all we can get and the balance as soon as we can get it, and we have found that that kind of an attitude is appreciated by the customer. He is much more inclined to pay all that he can down and make his payments as large as possible when handled in this manner.

### No Price Cutting

We don't sell cars by cutting the price on some particular car because the customer says that some of our competitors have such a car at a lower price. We do not know anything about our competitors' cars. We try to make the prices right on our cars and let it go at that. When a man tells us he can buy a car cheaper some place else, we tell him to buy it there. In other words, the old days are past. Surely there is no second-hand problem to-day such as existed two or three years ago; at least that is the way we feel about it. We sold something over 400 second-hand cars last year and we expect to sell as many this year. We have found that a more independent attitude on the part of the

used-car salesman brings respect in the mind of the customer and tends to make him think more of the second-hand car business in general. It used to be so that customers came into a used-car salesroom walking backward, ready to run out at the first suspicious noise. Others came in with the apparent thought that everyone who tried to sell them a second-hand car was a burglar, and that they had better place their watch in their trousers pocket and watch their step while trying to buy a used car. It is this attitude on the part of the public in general that we have been trying to overcome. We have taken the stand, at the Waterhouse Company, that the second-hand business as far as automobiles is concerned is absolutely legitimate and that the prices are based on values. We act on the theory that our department, attitude and actions when talking to a customer should be such as to make the customer know that we ourselves feel that buying a second-hand automobile is no longer a gamble.

If all of the dealers would just get the following facts firmly fixed in their minds the second-hand car business would not worry them so much.

### Big Demand Coming

The demand for automobiles during 1919 is going to be greatly in excess of the supply. The automobile factories cannot possibly get into full production before the middle of the year. This is going to strengthen and stabilize the second-hand car market and keep the market for second-hand cars good. You must remember that although we set the prices the public always makes the prices of used automobiles as well as nearly any other article of merchandise. It is just the same as on the race track. The public makes the prices. When we cut a price on one car we cut them all.

We don't sell used cars by holding so-called sales every thirty days or two weeks or continuously. We believe that dealers are led to hold sales, to plaster their buildings with banners and their windows with signs, through a panicky



feeling when business happens to slow up due to strikes or other temporary conditions. The holding of these sales does not move any great number of cars, but it does demoralize sales conditions and creates the idea in the minds of the public that the dealers are loaded with second-hand cars which they must sell. It really stops customers from buying cars and thereby forces prices down still further. I believe that we should do everything possible to stabilize used-car conditions. We should do nothing to create a feeling of distrust in the minds of possible purchasers or the suspicion that reductions are coming.

We don't sell cars by keeping open on Sundays or holidays. I do not believe that the time will ever come again when the automobile merchant or his salesmen in Seattle will be compelled to sacrifice the hours which should be spent with his family and in healthful recreation by opening his doors on Sunday in order that he may get a few sales which will be made anyway if we all stay closed up. Not one single extra sale is made in the course of a year by opening up on Sunday; but of course if two-thirds of the automobile establishments are closed and one-third stay open, then the third which do stay open have an edge on the rest of the fellows which must be taken into consideration.

#### Tell Its Real Age

We don't, and I personally never have as long as I have had anything to do with the automobile business, sold any automobile by misrepresenting its age, condition or value. Now this may seem like a very strong statement for a used-car man to make, but whatever success I have had in selling second-hand cars or new cars I attribute to the above-cited policy. It seems to me that the public at large has been prone to say something distasteful about the automobile business.

This has been particularly true of the second-hand end of the business; in fact, automobile men themselves in their anxiety to sell new cars will very often tell a man who is in doubt as to the advisability of buying a new car or a second-hand car: "Oh, don't buy a second-hand car; you can't tell anything about them." (They forget that every dealer during his career must sometimes handle a used car.) They have gone further than that and characterized the men selling the second-hand cars as a bunch of burglars, "gymps" and horse traders, devoid of respect and unworthy of the confidence of anyone. I have had friends come and tell me what some automobile salesman has said about me, and I have heard during the past ten years that automobile salesmen have said that I have committed almost every crime on the calendar, including arson and murder.

I never pay much attention to this kind of talk, for it is one of the penalties of success, no matter whether that success is, as in my case, rather a petty amount as things in general in this world are measured. Now

## And Now They're Off



as to the result of this kind of talk. If you do not speak well of the business in which you are engaged, you certainly cannot expect the people with whom you are dealing to speak well of it. The automobile men should take a look into the mirror; look your own selves over carefully before you criticize your competitor.

#### More Co-operation Needed

Now for a few words to the different companies who are running second-hand car departments. There should be more co-operation between the new-car department and the second-hand department. New-car salesmen, in their anxiety to sell a new car, sometimes try to achieve the impossible, thereby losing for the establishment the sale of a second-hand car which is sometimes all that the customer can legitimately afford to buy.

Something besides desire must be considered in the sale of an automobile. The size of a man's pocketbook has as much to do with the kind of an automobile he can buy as any other one thing. New-car salesmen seem to lose sight of these facts, and I have seen them try to sell a man an \$1,800 car who really could afford to buy a car priced at \$900 and no more. They do not seem to realize that the sale of a \$900 car provides a place for them to trade in another car at this same figure. Second-hand cars must be sold in order that more second-hand cars can be taken in, and if the whole burden of selling is placed on the second-hand department, and in addition to this fact the second-hand department has to stagger along under an added burden of knocks from the new-car salesmen, it simply means that the second-hand department, which sets the allowance figure of cars taken

in trade, is going to try to keep the allowance figures down below what they would be inclined, under other conditions, to give.

Don't try to tell your second-hand manager what second-hand cars are worth; that is his business, and if he makes too many mistakes he will find himself out of a job. You must remember he wants to get in stock, for if he hasn't any stock of cars he hasn't any job, and any second-hand manager, no matter who he is, has to keep a tight rein on himself at all times, for in his anxiety to get in stock he is always inclined to give too much for old cars.

The second-hand department is no place for a pessimist. He must be an optimist. I have found that the trouble with most second-hand men is that they are inclined to be too optimistic; in fact, I often have to put lead in my shoes to keep my feet on the ground. Don't be afraid that your used-car manager isn't giving enough for old cars; he is probably giving too much most of the time.

#### REMEMBER THESE THINGS:

Sacrifice profit sometimes in order to make a satisfied customer out of a kicker.

A satisfied used-car customer is a big asset.

You can make lots of customers happy by fixing little things up after the sale is made.

Extra equipment on a car, to some customers, is like the Sunday-school brick full of candy to the youngsters at Christmas time. We put bumpers and spot-lights on every painted car.

Seat covers, paint, new tops and extra tires sell cars—at a profit.

You must spend money to make money.

Read the Flat Rate story on pages 20 to 24. It ends next week.



# *Selling*

# THE TRACTOR *IDEA*

## *To User, Dealer and Banker*

Iowa Distributer Conducts Educational Campaign as Major Part of His Sales Plan

**M**ERCHANDISING a principle, not a tractor, is the theory behind what Hugh Silcott, manager of the Iowa Moline Plow Co., Des Moines, Iowa, is doing in selling the Moline-Universal tractor to the farmers of Iowa.

The principle is that the farmer should work a tractor just as he always has worked a horse, drive it ahead of him and ride himself on the implement behind. In other words, Silcott tells the farmer to unhitch his hay-eating and expensive horses and hitch up the non-eating tractor instead, using the same seat for himself in both instances. This is a new and original idea in tractor merchandising.

### Personal Letter Sent to Farmer

In order to make the notion of the substitution of the tractor for the horse appear reasonable and worth while, a circular letter, personally addressed to the farmer, is sent to him, giving official reasons for the assertion that a horse is a mighty expensive power plant for the farm.

It is taken for granted that the farmer already has discovered this fact for himself and that he has been thinking of substituting a tractor for his horses. But the farmer may have gone up against the difficulty that the ordinary farm tractor cannot substitute for the horse entirely on a corn belt farm for the reason that there is corn to be cultivated and whatever else an ordinary tractor may be able to do it cannot cultivate corn, hence the horses must be kept anyway.

What would be an obvious solution of this dilemma would be a tractor which would cultivate corn, a thing which the Moline-Universal admittedly will do. The conclusion is obvious.

This bit of farm reasoning is contained in Form Letter No. 1. Accompanying this is an attractive piece of printed mat-

ter which gives a carefully prepared story of what the Moline-Universal tractor will do on the farm, and which closes with an equally well prepared description of the mechanical construction of the machine, illustrated with clear, plain pictures of the principal parts of the tractor shown in understandable sectional drawings.

Lists of farmer prospects are secured from all the Moline dealers in the territory, and this letter and circular are sent to every one on the lists.

Letter No. 1 is followed by Letter No. 2 in a few days. This second letter hardly talks tractor at all, but emphasizes the principle that the farmer should sit on the seat of the implement he is using just as he always has done in the past and that the substitution of the tractor for the horse makes no difference in this respect. This is illustrated in language the farmer can understand and appreciate.

Two enclosures accompany Form Letter No. 2. One is a blank for the farmer to fill out and return, giving certain specific information about his farm, its size, its soil characteristics, the character of crops grown and the like. This immediately gives the company the opportunity to give the farmer his proper grade in the list of tractor prospects.

The other enclosure is a circular which emphasizes the facility with which the Moline-Universal may be used in the cultivation of row crops, a fact of commanding importance in the corn and cotton growing territories.

### Circular a Convincing Document

The inside spread of this circular is a significant and convincing document. It gives the result of a questionnaire sent out to users of the Moline-Universal asking about their experience with the tractor in cultivating row crops and what it accomplished as a substitute for horses.

It shows that on a number of farms with an average acreage of 247 acres there was an average of 74.2 acres, or 30 per cent, in row crops. This average the Moline-Universal cultivated successfully and satisfactorily, and that, because of this fact, these farmers, on the average, have been enabled to dispose of 4 horses per farm.

Furthermore, this particular table, or

exposition, whatever it may be called, is being used as the substance of a 2-page spread advertisement in the leading farm papers which circulate in the Iowa territory.

In this connection the dealer himself is urged to hitch himself up with the advertising idea and use his local papers. Carefully prepared advertisements, written and designed by the advertising department of the Moline Plow Co., are offered in plated form to the dealer free of charge, provided he will buy and use space in his local papers.

### Benefits of Dealer Advertising

The company shows him how this dealer advertising hooks up with and supplements the national and general advertising being done by the company and how it all redounds to the benefit of the dealer.

The dealer is shown how what he does himself in the way of advertising is just as necessary and is essentially as much a part of the whole publicity scheme as that which the company is doing, yet that the dealer's part is the least expensive of all. In other words, the dealer is sold on the whole advertising proposition, and as a result, generally speaking, he is quite willing to assume his part of the plan.

But there are other things to be done as well. There is the equipment which goes with the tractor, for instance. It happens that Moline equipment is especially designed to be used with the Moline-Universal tractor. For this reason the company believes it is desirable that the dealers who sell the tractor should sell the equipment also.

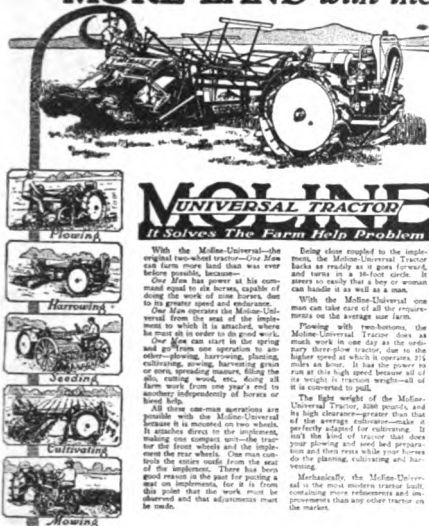
But some of the new automotive dealers who have taken on the tractor, not having had any previous experience with equipment, are inclined to shy a little at being put into the implement business. Very well, let them shy, says the company.

Obviously, however, if the business comes to them unsolicited they certainly will take care of it. So at the Des Moines office will be found a list of every owner of a Moline-Universal tractor in the 45 counties covered from that office. Periodically every man on that list receives printed matter, letters, circulars and the like telling him about Moline equipment

(Continued on page 16)

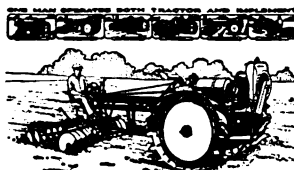


## ONE MAN CAN FARM MORE LAND with the



**MOLINE UNIVERSAL TRACTOR**  
It Solves The Farm Help Problem

With the Moline Universal tractor, one man can farm more land than ever before. It is the most powerful tractor ever made, and it is the most economical. It can do all the work of a team of horses, and it can do it faster and cheaper. It is the only tractor that can be operated by one man, and it is the only tractor that can be used for all the work of a farm. It is the only tractor that can be used for all the work of a farm, and it is the only tractor that can be used for all the work of a farm.



One Man Does 27 Acres a Day with the New  
**MOLINE UNIVERSAL TRACTOR**  
It Solves The Farm Help Problem

During its rapidly and economically done with the new Moline Universal Tractor, Model D, one man with a 24-inch disc harrow is doing the work of a team of horses. It is the most powerful tractor ever made, and it is the most economical. It can do all the work of a team of horses, and it can do it faster and cheaper. It is the only tractor that can be operated by one man, and it is the only tractor that can be used for all the work of a farm. It is the only tractor that can be used for all the work of a farm, and it is the only tractor that can be used for all the work of a farm.

## ONE MAN CULTIVATES TWO ROWS AT A TIME with the



**MOLINE UNIVERSAL TRACTOR**  
It Solves The Farm Help Problem

One man can do the work of a team of horses with the Moline Universal Tractor, Model D. It is the most powerful tractor ever made, and it is the most economical. It can do all the work of a team of horses, and it can do it faster and cheaper. It is the only tractor that can be operated by one man, and it is the only tractor that can be used for all the work of a farm. It is the only tractor that can be used for all the work of a farm, and it is the only tractor that can be used for all the work of a farm.

These circulars, explaining the kind of work that can be performed by the farm implements produced by the Moline company, are sent to farmers with a personal letter

### Form Letter No. 1

Did you ever stop and figure how much your horses are costing you a year? If you have, you know that your horses are eating their heads off. If you have not figured this out, there is no better time than now. The Government's U. S. Farmers' Bulletin No. 645 states that a horse requires yearly 3 tons of hay, 53 bushels of oats, and 53 bushels of corn. Using for a basis quotations taken from this morning's "Des Moines Register," we find:

53 bushels of corn @ \$1.20.....	\$63.60
53 bushels of oats @ .50.....	26.50
3 tons of hay @ 20.00.....	60.00

The cost of feed alone for one horse equals .....\$150.10  
Figuring also interest, depreciation, cost of shoeing, harness depreciation, veterinary charges and labor, and you will find that each one of your horses is costing at least \$200 a year.

Assuming that you are considering the purchase of a tractor (all good farmers are giving this serious thought), we desire to ask you a question. If, in purchasing a tractor, you buy one which will not permit of your disposing of the majority of your horses, are you making the best possible economical investment? Because the horse power needed for cultivating is equal, or nearly so, to the horse power required for plowing and discing, it follows that you must buy a tractor that will CULTIVATE. Then there is just one answer—in other words, just one tractor that will fill your needs—the MOLINE UNIVERSAL TRACTOR, a descriptive circular of which we are enclosing herewith. Not only will this tractor CULTIVATE, but it will do all farm work, and in each and every instance ONE MAN operates both tractor and implements from the seat of the implement attached.

Let us send you further information concerning this tractor, price, owners living in your vicinity, and the name of the nearest dealer with a tractor on his floor. A postal will bring the desired information.

Yours very truly,

IOWA MOLINE PLOW CO.,

By G. A. Snider.

### Form Letter No. 2

The power of a principle is the most wonderful thing in the world. The manufacturer who starts with a correct basic principle can accomplish anything. He can even produce a tractor that will completely motorize farming instead of only assisting the horses with farm work.

Moline Universal principle declares that THE FARMER SHOULD SIT ON THE SEAT OF THE IMPLEMENT USED.

That's where he has always sat and operated the implement from.

Other tractor builders adopt the principle that the farmer should ride on their tractor and drag the implement used blindly behind him, trusting to luck that the implement works properly, or placing an extra man on the implement to see that it does so.

It is entirely a matter of principle.

Either Moline Universal principle is right or farming has been done backward ever

since farm implements came into use, for, if our competitors' principle is correct, the farmer should have been riding one of his horses and drawing the implement used behind him.

Moline Universal principle enables the Iowa farmer, single-handed, to motorize his farm. He can plow, disc, drag, plant, CULTIVATE, harvest and put in the silo, a corn crop. He can plow, disc, drag, seed, harvest and thresh a small grain crop, utilizing up to 24-inch separator. These statements we guarantee.

No other tractor has the principle permitting of the above guarantee.

Are you going to buy a tractor to assist your horses, or are you going to buy a Moline-Universal and motorize your farm? May we not hear from you?

Yours very truly,

IOWA MOLINE PLOW CO.,

Hugh Silcott, Manager.

### Information Blank with No. 2 Letter

on

MOLINE-UNIVERSAL TRACTOR MODEL D

IOWA MOLINE PLOW CO.

Des Moines, Iowa

Gentlemen: I am considering the purchase of a Tractor and would like full information. I own or rent .....acres.

I keep ..... head of horses or mules.

My soil is ..... (State nature of soil and if level or hilly)

My fields contain about ..... acres each.

The crops I grow are .....

I would like to know .....

I am interested in the following other implements: .....

My implement dealer is .....

My name is .....

Post Office .....

Freight Office .....

State.....

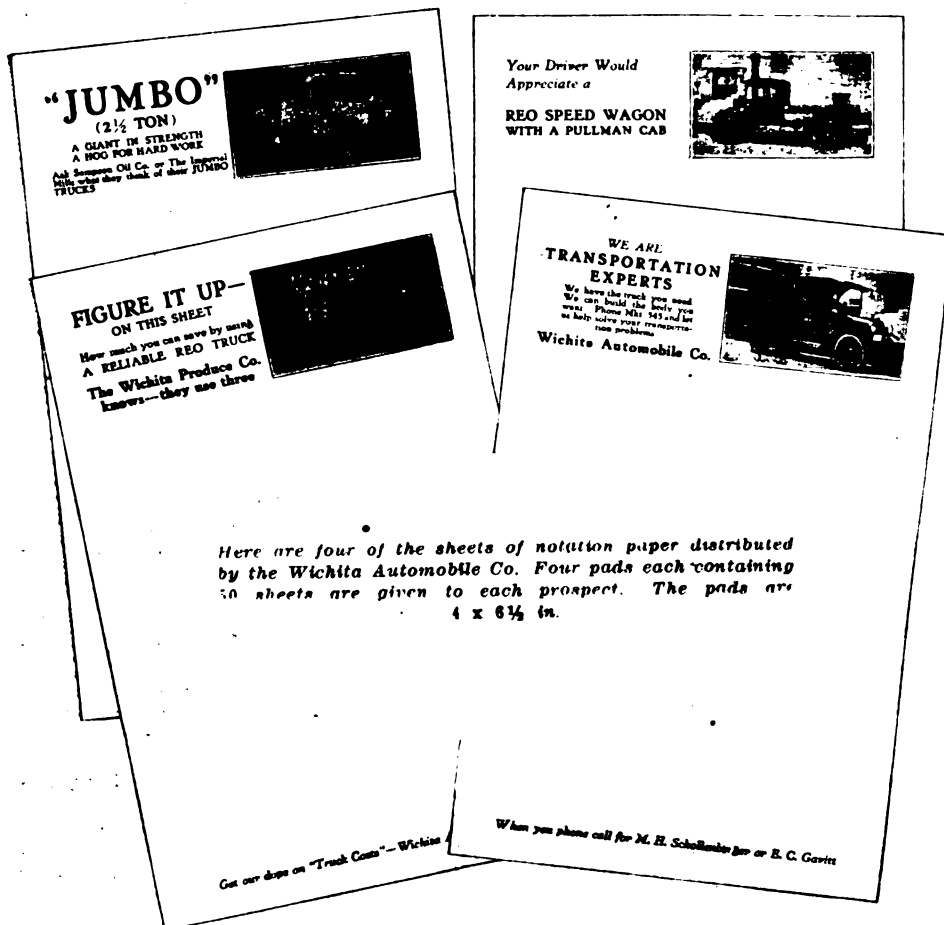
County.....

(Use the Back of this Blank for Further Questions)



# Keeping Close to the Truck Prospect

*Keeping Your Proposition Everlastingly Before the Prospect Is Bound to Bring Results in the End—You Have Heard That the Mightiest Stone Will Eventually Be Worn Away by Little Drops of Water if There Are Enough of Them—Apply That Fact to the Business in Hand*



Here are four of the sheets of notation paper distributed by the Wichita Automobile Co. Four pads each containing 50 sheets are given to each prospect. The pads are 4 x 6 1/4 in.

Get our dope on "Truck Costs"—Wichita

When you phone call for M. H. Schollenberger for or E. C. Gavitt

**I**F you could talk to each owner and prospect ten times a day, showing him pictures of trucks you had fitted up for other business men in your community—

You'd likely get most of the truck and body business those people had to give.

Well, that's about what the Wichita Automobile Co. of Wichita, Kan., is getting. Here's the way it accomplishes the frequent interviews:

It distributes to owners and prospects blocks of notation paper—of a good quality, so that the business man can write on it with pen and ink. Four pads are given to each person visited. Each pad has fifty sheets. These fifty sheets contain a series of four different pictures, alternated, each with appropriate reading matter. The pictures are of trucks and truck bodies built for Wichita business firms—vehicles the business

man probably sees every day, or owned by firms with which he is acquainted.

The notation pads of January bore pictures of four Wichita trucks. In February, the pads will bear another series—each month different trucks will be shown. In the course of the year, therefore, the owners and prospects of the Wichita Automobile Co. will have been looking at the pictures and stories of forty-eight different trucks.

The cuts used are 1 x 1 1/4 in., the pads being 4 x 6 1/4 in. The cuts can be used later for a variety of advertising purposes.

Owners who see the pictures of their trucks thus displayed are usually highly pleased with the compliment.

## Salesmen Supplied with Pads

Every salesman carries a pocketful of the pads; the company keeps a record of the firms with whom pads are left, and watch is maintained that the owners and prospects are kept supplied. The list of firms having pads provides an additional check on the calls of salesmen, and attention to customers and prospects. It has been found that diligence in visiting present owners is well repaid, for they frequently want additional trucks or service of one kind or another with reference to bodies or equipment.

At the top of each slip of paper is the cut of a truck, the series of four in January, 1919, showing four different styles; beside each cut is a "sales talk," and at the bottom of each slip is a pointed remark, the four in the January series being:

*When you phone call for M. H. Schollenberger or E. C. Gavitt.*

*Get our dope on "Truck Costs"—Wichita Automobile Co.*

*Wichita Automobile Co.—"The Reo People."*

*Wichita Automobile Co.—Transportation Experts.*

## Selling the Tractor Idea

(Continued from page 14)

designed for use with his tractor, urging him to use it if he is desirous of getting the best results from his operations and telling him that the place to buy it is from the man from whom he bought his tractor. The results, as respects the sale of Moline equipment and the development of automotive dealers is obvious.

There still remains one other factor in the situation which cannot be overlooked.

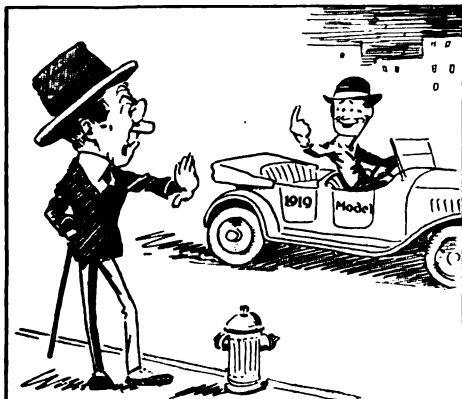
This is the local banker. It is necessary to sell the banker on the power farming idea primarily, and secondarily, on the fact that the Moline-Universal tractor is the means whereby power farming advantages may be brought onto the farm.

The Des Moines house lists the cashier of every bank inside its territory, and is conducting an intensive campaign of education directed at the banker to con-

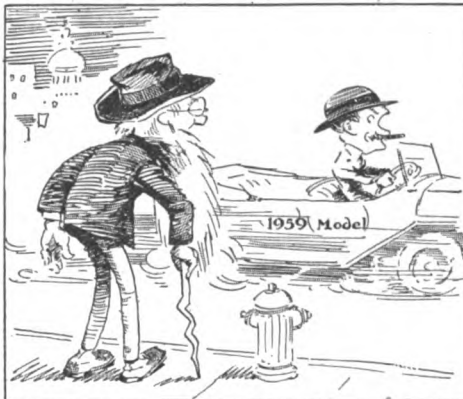
vince him of the importance of the power farming idea and to enlist his interest in it to the extent that he will finance the farmer in equipping himself for that kind of farming. This propaganda is resulting in good too, for, as Silcott says: "There's nothing like a shot in the arm to make the banker sit up and take notice and he's getting some mighty hot shots from us, take it from me."



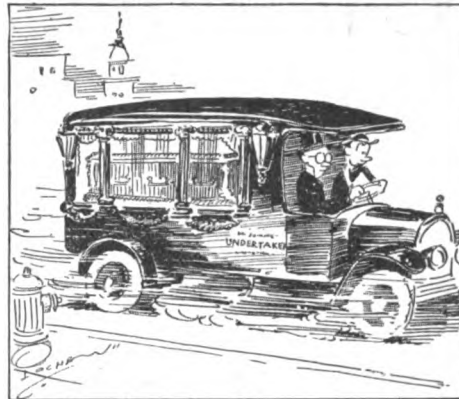
## A Series of Five Car-Sales Stories



"Buy! No! I'm waiting for a drop of \$200"



Still waiting to save \$200 on a car



Spending the \$200 that he saved

WHAT TO SAY WHEN THE PROSPECT SAYS:

# "I'll Wait for Lower Prices"

"REILLY," said Tommy Trumbull; sales manager in the house of C. J. Reilly, Inc., "what do you think of bringing up some of our principal sales problems at our morning meetings?"

"Fine!" replied the Sennett dealer, who always said "Fine!" whenever Tommy broached an idea. He might can it afterward, but he always started off by saying, "Fine!"

"I mean, let's make one meeting a week, or oftener, a bit longer than the usual fifteen or twenty minutes, if necessary, and iron out some of the troubles the boys are having with unruly prospects this spring. Some of these prospects have funny notions."

"Fine!" Reilly repeated. Whereat there was nothing for Tommy to do but keep right on explaining his scheme.

"You see," he continued, "we have conditions now that are a bit different than they used to be. Prices are higher, the situation is a bit unsettled, some prospects have the old ideas about this business, most of which we discarded during the war, and the boys hit some new ones right along."

"For instance?"

"Well," Tommy began, "probably the prime favorite among bargain hunters these days is: 'I'll wait for lower prices.' It—"

"Fine chance they've got!"

"Sure!" agreed Tommy. "But they don't know it. They don't believe it. We've got to figure out a good argument for the boys to beat these price-waiters. If we can get our collective information together on such points as these it will help the whole gang of us. Believe me, we're going to put some Sennetts into Callawassa this year if we have to plant some strong-arm men at the factory to sneak the cars out for us."

By Ray W. Sherman

"Lower prices! Huh!" snorted Reilly. "Might as well expect to get by a hat-check boy in a Broadway restaurant. It's not being done."

there is absolutely nothing to it but labor."

"But—"

"But nothing!" Reilly asserted. "There's absolutely nothing in an automobile but labor. And it is this labor factor that you've got to take into consideration all the way through. Take the steel. Where do you get it? You find it in the ground and you pay a man to dig it out. It's all labor. Then you pay another man to handle it in its first step. It's all labor. The coal that is used in treating the steel is found in the ground and they pay a man to dig it out. It's all labor. They pay a man to make the coal burn. It's all labor."

"Then the motor maker buys steel to make motors, but all he pays for is something that somebody found in the ground—plus labor. The motor maker puts the steel through his plant and increases its value—by labor. He has to carry an overhead of investment in his factory. But what is his factory? Nothing but iron, and stone, and brick, and steel, and wood, which somebody found in the ground or on the mountains or somewhere else—plus labor."

"Take the leather. It comes from a cow. The sustenance of the cow comes from the earth. The grain she eats is created by labor—and nature—and nature works without pay. Trace back everything in the car and you'll find that somebody found it somewhere at no cost and that the entire product is nothing but labor. It's labor, labor, labor, all the way through."

"And now take labor. It's worth 50 to 100 per cent more than it was four years ago. AND IT'S NOT COMING DOWN."

"Furthermore, the labor that has increased is not alone the labor of the man  
(Continued on page 40)

### What to Say When the Prospect Says:

- 1—"I'll Wait for Lower Prices" (This Week)
- 2—"I'm Not Ready to Buy Yet" (Next Week)
- 3—"My Old Car Is Worth More" (May 14)
- 4—"Your Price Is Too High" . . . . . (May 21)
- 5—"Your Competitor Cuts Prices" . . (May 28)

"We know it, and the prospect ought to know it, but he doesn't use his noodle," Tommy explained. "We've got to unsell him on the idea."

"Why, look here!" asserted Reilly, drawing a scratch pad to him for demonstrating purposes. "How can they fall? To begin with, our prices never went abnormally high, and there was a bit of a cut shortly after the armistice. The car used to be thirteen twenty-five. Now it's eighteen ninety-five. That's—let's see—an increase of only about 40 per cent since prices started to soar. At the same time the cost of living has gone sky-high and the price of labor and materials is away up to 40 per cent and then some."

### Wages Have Gone Up

"At the factory the average wage used to be four dollars a day. Now it's five and a half, and maybe six by now. The same ratio of wage increase—or greater—prevails in the plants of the factories that make our motors, axles and other parts. By the time you get back to the raw material in a car you'll find that



# California Trade Well Organized

Every Branch of the Automotive Industry Represented  
in the California Automobile Association, Which  
Makes for Keen Co-operation

**O**UT on the Pacific Coast it has been developed to the nth degree and big things are being accomplished as the result of the associated automotive trades industry realizing the advantages of centralized effort toward accomplishing purposes.

Great, big jobbing houses doing millions of dollars of business each year and the tire repairmen whose shop at one time was a barn have learned they have interests in common, hence each is represented in the California Automobile Trade Association.

The C. A. T. A. has almost 3000 members at this time and is growing. Executive offices are maintained and everything is conducted right up to snuff, although the association has been in existence less than 2 years.

Motor car dealers, garagemen, vulcanizers, tire dealers, body builders, accessory dealers, painters and anybody else whose business is in any way identified with the automobile trade may become a member of his local branch. The growth of the organization has been so pronounced and the ideas for the future are so advanced that already the Stanislaus County branch has proposed a change in name to replace "Automobile" by "Automotive" and admit tractor and airplane dealers or mechanics to membership.

## Two Outstanding Features

There are two features of the California Automobile Trade Association that are very impressive. One is the extent of the organization and the other is the frequency of meetings and conventions.

Starting at the top there is the state association, which is subdivided into northern, central and southern branches for convenience. Each of these branches is subdivided into county associations, and these in turn are split up into craft bodies. By craft is meant the various lines of industry the membership is identified with, such as tires, batteries, accessories, cars, etc.

Some branch or department of the general association is meeting almost all the time. *These men apparently believe they can accomplish more through association than letter writing.*

The tire men get together and discuss their troubles and probable remedies. It is the same with all the other crafts.

The reason for this division is that

battery men seldom are interested in tires and vice versa, so that it would be wasted effort for all to meet on craft business, but each is deeply concerned along his particular line and all can benefit through the interchange of ideas. County and divisional meetings are held at least once a month and the state meeting is annual.

The writer, representing Motor World, was invited to attend the recent district

convention in Los Angeles. Accustomed as he was to attending business meetings he was surprised by the total absence of secret conferences and the general prelude to many discussions that "This is not intended for publication."

The members of the California Automobile Trade Association talk right out in meeting. They call a spade a spade and apparently are so confident of the correctness of their attitude that they offer apologies for nothing.

When telling facts of vital concern to the members, the secretary removed his coat, rolled up his sleeves, came down from the rostrum and talked with arm extended in the approved manner of the best argumentative lawyers.

## Protect Interests of Public

Although in business primarily for their own interests, these tradesmen are broad-gaged enough to know that the public is entitled to and must receive consideration. That is why they are seeking to protect the interest of the public when it deals with C. A. T. A. members.

They know, too, that if they can drive this point home there will come the time when the public will not patronize any but C. A. T. A. members because of the certainty of honesty in methods.

As an example: Recently a car owner in Oakland bought a battery from a member of the association. It was not satisfactory and he made a complaint. All he got was a promise, but no actual service. He paid cash for the battery and it was guaranteed. He appealed to another member of the association.

The organization took up the matter, installed another battery in the complainant's car and obtained reimbursement for the expense from the offending member.

Price cutters are looked upon by the association as enemies to good business. The organization does not hesitate to apply the screws against offenders, and in every case to date has got results.

An instance was cited wherein a factory branch of one of the largest automobile manufacturing concerns in the country advertised a sale of tires at 20 per cent discount. A letter was written by the association secretary to the coast manager of the automobile factory and his attention called to the matter. He was reminded that his company always had upheld prices on its cars and asked why it should sell tires at discount. The



The big poster, 18 x 36, was used at the state convention in Los Angeles, Jan. 24 and 25. The circular insignia at the bottom is that of the state association





## Officers of the California Automobile Trade Association

*Left—R. D. Angelica, president, Los Angeles Automobile Trade Association, manager of Ahlberg Bearing Co. Center—B. W. Sinclair, president, California Automobile Trade Association, Ford distributor in San Diego. Right—Robert W. Martland, secretary, California Automobile Trade Association*

result was the sale was stopped and the branch manager reprimanded.

In another city two tire companies were offering discounts to employees of a large manufacturing concern doing government work. In the yards of the company bulletins were posted saying employees could buy tires at a discount upon presentation of their passes.

Upon complaint of the C. A. T. A. the bulletins were removed and the practice discontinued.

One of the county branches complained that a certain oil company, which is privileged to sell tires to employees at a discount, was not restricting the plan to employees only but permitting them to buy for friends and relatives.

Upon protesting to both the tire and oil company heads a promise was obtained that hereafter employees buying tires at discount could do so only upon properly certified requisitions.

The state officers are anxious that their members give value received and at the same time make a reasonable profit for themselves. At a craft meeting in one city recently painters were asked to estimate on painting an imaginary car. The highest price any was charging for the best job was \$100. Blanks were passed among them and all were asked to estimate the cost of a \$100 job. The result was an average of \$129.50, and then it developed that in order to get out for \$100 on a job that cost \$129.50 the practice had been to skimp the job.

Now, as the result of that one meeting and discussion, paint jobs are classified according to specifications, and the charge is made correspondingly, and it is agreed that each job shall be designated on the under side of the hood as 1A, A, 1B or B.

By this system whenever an owner says he paid \$150 for the paint job everybody knows he got a 1A job and the specifications that were met in turning it out. This \$150 job is the one that corresponds to the \$100 job upon which money was lost formerly.

Machinists have been called into meetings of their craft, an automobile part broken up and estimates secured upon the cost of making it for replacement. One man would do it this way for a certain sum; another a different way for a different sum, but when it came time for the meeting to adjourn all knew the best way to make the part and the lowest

cost, which enabled them to fix their charge and profit accordingly.

This co-operative spirit has advanced to such a point in one city that when sickness cuts down a force during a rush period and there is another shop that does not need all hands for the time being the latter are privileged to help out at the other shop during the emergency and then return to their place of regular employment.

### What the Co-operative System Accomplishes

At the Los Angeles convention the association went into battle array for the biggest combat it has undertaken. Recently the Automobile Club of Southern California established a free tow car service for its members in Los Angeles County. The C. A. T. A. construes this as an encroachment upon the business of its members.

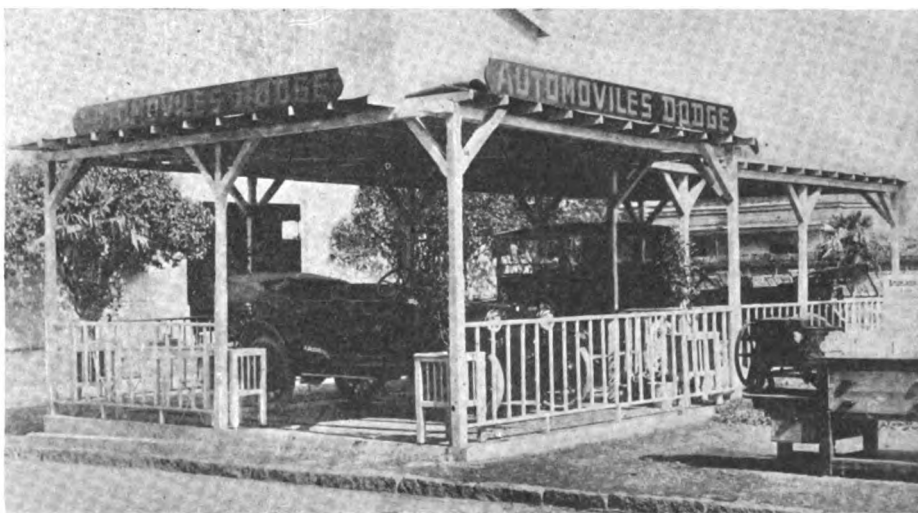
It is not so much because of the tow car affair in itself that the association takes umbrage but at the possibilities that may be behind it. What, the C. A. T. A. asks, will be the result if the Auto-

mobile Club goes into the repair business for members, and what if the club begins selling supplies to all members at a discount?

When it is remembered that the club membership is almost 18,000 the possibilities can be realized. To show its disapproval, after having made formal request of the club to treat with it upon the subject and having been notified by the board of directors of the determination to stand pat, the C. A. T. A. members adopted a resolution providing for cancellation of all relations with the club. Official garage signs and all insignia of association members are being returned to the club. Advertising in the club's organ is to be canceled. Insurance in the club's bureau is to be canceled and there is to be no connection of any kind. The interest of the general public has been aroused.

One of the most recent acts of the association has been to request state legislation to demand that all grades of distillate be colored artificially so that when ordering gasoline consumers may not be imposed upon by being sold distillate unknown to them.

### They Are Showing Cars in Open Air Down in South America



THE above picture, showing an exhibit at a fair grounds in the country town of Palermo in the vicinity of Buenos Aires, forms a strange contrast to the display shown in the United States. Seasons in the southern part of South America are the reverse of ours. This picture was taken during the summer down there. The display pictured here is that of Dodge Brothers



# THE FLAT RATE PLAN

## for SELLING SERVICE AND REPAIRS

By Percy E. Chamberlain

### Explanation

*This is the third installment on "The Flat Rate Plan," by Percy E. Chamberlain. The first installment appeared in the issue of April 16.*

*This story tells how a successful dealer took the trouble, grief and money loss out of his service and repairs. He is able to-day to collect bills of \$700 and \$800 without complaints or adjustments. The story is told here for the benefit of other dealers. With this story is a supplement (printed with the April 16 issue) showing the manner in which the forms and records are kept under this plan. Preserve the supplement, and have it in front of you when reading this interesting story. The last installment will appear May 7. A study of this story may mean thousands of dollars to you. MOTOR WORLD believes this is the most comprehensive and intelligent solution of the service and repairs problem that has ever been worked out. The plan is in operation in the house of the Cadillac Motor Co. of Denver, and the story is told by the Manager, Percy E. Chamberlain, who worked it out.*

### THREE PARTS TO THE STORY

*This explanation is divided into three distinct parts which the reader should firmly fix in his mind at the start.*

**PART ONE**—Covers the preliminary work necessary for the repairshop to do before it can actually prepare and work under an exact **FLAT RATE SCHEDULE OF PRICES**. Since the Flat Rate Price Schedule is based upon the costs of the individual establishment, this preliminary work is absolutely essential.

**PART TWO**—Covers the preparation of the Flat Rate Price List after the preliminary work has been done. It shows how the orders are handled under the system and how averages are kept to prove out the charges.

**PART THREE**—Covers the method of selling repairs under the Flat Rate Plan, the method of making written estimates and of writing the orders. The plan is new to the customers of the repairshop which adopts it and it is vital to the success of the plan that it be constantly **SOLD** in the **RIGHT WAY**.

### PART I—CHAPTER III

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*In order to link up this installment with what has preceded, we suggest that the reader get out his last week's copy of MOTOR WORLD and read the last two or three paragraphs.*

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**AS** you work through the Time Sheet in this way you put down all of the time under the proper job number, as well as the other kinds of time. When you have finished you are ready to make the entries on your invoices and to post the Operation Time Sheets into the permanent Record Book.

The right-hand tabulation on the Daily Statement of Service Worksheet—Form 5—is intended both to prove the "take off" from the Time Sheet as well as to give the owner of the business or its manager a running account each day of how his shop is going. Not only can he check the gross profits, but, from the Guarantee, Free Service, Idle and Non-Productive time is able to take steps to reduce unprofitable expenditures along this line without waiting for the end of the month to bring him a statement. On this stub the total of all kinds of time must be the same as the total hours paid

for, as will be easily apparent. This stub is detached each day and placed upon the manager's desk.

#### The Invoice

While the invoice used is not a part of the flat rate averages, it is so closely allied with your repair methods that a few words about it will not be amiss here. A sample invoice is shown as Form 6. Its most important feature is the distribution sheet at the bottom.

The invoice is started whenever the Time Sheet shows a new job order number. If the job is finished the same day the invoice is, of course, finished that day also. Many jobs, however, run over several days, some of them two weeks or more. In that case it is obviously the best plan to keep the invoice up to date, entering each day's charges as they occur.

Many repairshops—and some of them the largest ones in the country—hold all of the charge tickets until the job is finished. It then requires a considerable time to make up the customer's bill. Often the customer is waiting for his car and he will not wait while the bill is being figured out.

By this method the invoice follows the job so that when the work is completed it is necessary to add only that day's charges and the bill is ready. It takes

no longer to furnish a bill for a big job than for a small one.

Upon the invoice proper are entered each day the parts and material and other charges of this nature. As each amount is set down the charge is placed in the proper column on the distribution stub at the bottom. This stub is torn off before the bill is presented to the customer. If cash is paid, it goes into the cash drawer to account for the money. If the bill is to be charged, it is given to the bookkeeper.

By simply totaling each column on the distribution stub the bookkeeper checks the total of the bill. This again catches clerical errors. All of the corresponding columns on all of the distribution stubs for each day give the bookkeeper a distribution as between departments. Whenever a deposit is made up, the distribution stubs in the cash drawer are handled in the same way. They are printed in a size to fit a standard loose-leaf file and become a permanent record of original entries in case the books are checked by an auditor.

Incidentally all invoices should be typewritten. The extra expense, if any, will be more than justified in the added neatness and the business-like appearance. In most organizations the big things take care of themselves. It is on your ability to handle the small details—



the finer points—that you are judged favorably or adversely. A clean-cut, attractive invoice is always of value.

### The Bookkeeper Information

The distribution stubs, however, handle only the time charged to the customer. There still remains the "overhead" time which we have called "non-productive," "idle," "expense," etc. This is charged through journal entries on your books, the information coming to the bookkeeper through a blank called "Bookkeeper's Information." This is soon shortened to "B. I."—B for bookkeeper, I for information—and is shown as Form 7. All inter-department charges and inter-account charges are entered on the B. I.—Form 7—by the billing clerk when the time sheet is checked. In this way your shop sales account may be credited with certain labor and your shop expense account charged with the same labor. This B. I. may also be used throughout your organization for any sort of transaction of which the bookkeeper must be informed. It does away with verbal instructions and, filed in order, provides a permanent original record for the auditor as well as a quickly-referred to, signed authority for book entries which may need to be looked up later.

In this way each day's time gets on your books in the proper account. When these accounts are totaled at the end of the month they provide amounts which give you your costs in a manner to be shown later on.

### The Operation Record Book

The Operation Records are kept in a loose leaf binding. The sheets are arranged as per Form No. 8. These sheets can be purchased at any stationery store. It is not necessary to have them printed, unless you so desire, as the columns can be headed with pen and ink. This Record Book can be kept by your billing clerk or any other office employee. In one case it is done by the telephone operator, since all of the information for it is taken from the Operation Time Sheets—Fig. 4—together with the Parts Tickets or entries of parts used on the jobs, whatever form you use for that purpose.

As soon as the billing clerk finishes making the entries on the invoices and on the B. I. for the day, all of these data—including the workman's original order—are placed in an envelope. This envelope and its contents is the permanent office file and contains the following:

- 1—Office copy of original order.
- 2—Operation time sheets covering the job.
- 3—Carbon copy of parts tickets. (In some cases the parts used are entered on the back of the workman's order.)
- 4—Workman's order.

These, with the Time Sheet, which is filed in a loose leaf binding, form a complete record of the entire job and can be quickly referred to one day or one year later. On the back of the envelope—which may be purchased at any stationery store—the following rubber stamp is used:

Job. No. ....	
Estimated Cost.....\$.....	
Labor \$.....	
Material \$.....	
Parts \$.....	
Actual Cost.....\$.....	
Over \$.....	Under \$.....

These envelopes are then turned over to the person who keeps the Operation Record Book. The sheets upon which they are entered are shown as Form 9, and little comment is necessary since the sheets show for themselves the nature of the record.

You will readily appreciate, if you have read this far, that each repair job usually means a record of several operations. In the illustration previously used "Operation No. 3, Repair Radiator,"

### Study the Forms

would provide records on three operations, Nos. 1, 2 and 3. In this way complete statistics are quickly secured.

This record also gives you an accurate check on the efficiency of your workmen. You can see at a glance which of them are coming within the estimates you have made and which are exceeding them.

At the end of every month these sheets should be ruled off with red ink and totaled. These totals should then be divided by the number of operations for the month in order to get the average. *This average means much.* It includes good work and poor work; jobs that have progressed smoothly and jobs that have presented difficulties; the time required by experienced efficient workmen and that required by the newer, less skilled men.

You should have your stenographer—or do it yourself—make a list of these averages and have this ready for discussion at your monthly meeting. You will raise some warm discussions over them on the part of your workmen and *when they begin to discuss them with heat you may know that you have their interest and that they will try to lower them the following month.*

As each month's averages are type-written in this way you can readily see whether your original estimate was correct and what the difference is from month to month. The column giving material and parts need not be averaged. This record is kept to assist you with data when you begin to use the Flat Rate Plan later on.

When you reach this point the entire process becomes automatic and is not dependent upon any one of your employees. It is now proving itself and, while you originally needed the services of a technical man to start it, you will find that it has become a matter of religiously keeping track of the system and not

allowing it to lapse. The details can be handled by almost any one, *whether he or she be technical or not.*

### The Ledger Accounts

Every shop, no matter how small, should have at least three general ledger accounts as follows:

#### SALES ACCOUNT—

**Debits**—Charge this account with the wages paid your workmen. Management and non-productive wages and salaries will also go into this account. If the management and non-productive time is paid as flat salaries, it is easily figured at the end of each month. If part of the time of such employees, including shop foreman, is productive, each kind will be segregated through the time sheet as previously explained.

**Credits**—On the credit side enter all of money collected from customers for repair work produced by the men whose salaries are charged on the debit side of the Sales Account.

#### MERCHANDISE ACCOUNT—

**Debits**—Charge this account with all purchases of material which is sold in connection with repair work.

**Credits**—Credit this account with all sales of material at retail prices.

#### EXPENSE ACCOUNT—

**Debits**—Charge this account with small items of shop expense such as small tools, shop upkeep, soap, towels, laundry, etc.

It is not my purpose to outline a book-keeping system, as *it must be presumed that one is in vogue in every repairshop.* In order to arrive at your costs accurately, however, it is necessary to make certain segregations which may not occur to one who arranged your ledger accounts purely from an accounting standpoint.

If your business consists of several departments you should divide the overhead of your entire establishment so that your repair department stands its just share of everything. Such overhead includes administrative salaries and expenses, taxes, light, heat, power, janitor, advertising, rent, office, insurance, etc. Each month this proportion should be charged to the EXPENSE account of your shop and, in this way, will figure in your costs.

The credits to both the Sales and Merchandise accounts come through the Cash Book or the Accounts Payable Ledger in case they are direct credits from sales to customers. "Inter-Account" credits come through the Bookkeeper Information—Form 7—as previously explained. The illustration of the "B. I." shows how the Sales Account is credited and the Expense Account charged.

#### Guarantee Account

In a repairshop of any size there should also be a "Guarantee" Account. Into this account is charged all work done for which the shop must pay, either because it did not do the work right the first time or because of a matter of policy or for any other reason. This can be



absorbed in the Sales Account, of course, by doing the work on "shop time," but it is much better to segregate it in order that the manager may KNOW HOW MUCH of this sort of work is being done. Charged to "shop" on the time sheet, it shows up as NON-Productive and gives a false impression when seen upon the statement at the end of the month. Non-Productive and idle time IS absorbed as a matter of course, the segregation of such time being for the purpose of figuring percentages.

#### Stick to the System

We have now laid the foundation through service desk, shop and office for the Flat Rate Price List. There remains but the ability to stick to the system for a period of time sufficiently long to secure enough averages. This time will vary according to the volume of business done by the shop. The makes of cars you handle most will pile up averages faster than those which are brought in less often.

Hardly a day will pass but some prob-

lem will present itself to you in connection with this work. However, such problems are incidental and, if you have a clear conception of the entire plan, you will not let them confuse you. *Insist upon accuracy in every department.* A few cents will make but little difference, but a few cents' difference upon several hundred orders will, in the aggregate, throw your averages off considerably.

And so, like the stage play, we now drop the curtain upon the preliminary story which has been told in order that the main issue may be arrived at. When it is raised again several weeks or months, as the case may be, are supposed to have elapsed. Your RECORD BOOK has hundreds of operations. You have, month by month, taken off your averages. You know about what it costs to do every kind of work on the cars you handle from the labor standpoint and you are ready to apply what you have learned. We proceed, therefore, to a detailed explanation of the method to be used in this application—in short, to the FLAT RATE PRICE LIST proper.

## Part Two—Chapter IV

### THE FLAT RATE PRICE LIST

AS explained earlier in this story, the Flat Rate Price List is made up on a different basis from the List of Operations necessary for the purpose of keeping averages. The former keeps track of every detail of each operation necessary in order to perform the work ordered by the customer. In the Flat Rate Price List it is necessary to retain only those operations which are customarily ordered by the customer—the complete job.

There are several points to be taken into consideration in fixing your flat charges, as follows:

#### Get These Points

**FIRST**—The manner in which work is ordered on the particular make of car. Your record book will show you that many operations that you considered necessary are not ordered twice a year. Each different make of car has certain parts which need repairing more often than others because of the nature of the construction.

**SECOND**—A proper consideration of the psychological effect of certain charges upon the customer. The averages you have kept will show you that small jobs, such as filling battery, draining radiator, etc., take much longer than you ever thought they did. The customer still THINKS they do not require this much time and will never consent to pay for it in full. You will lose him over an extra ten cents on this sort of operation where he would gladly pay, without complaint, \$10 extra on a job with which he is not familiar.

**THIRD**—A technical knowledge of the car which will allow you to make separate operations covering exactly the same work when necessary to figure this work both from an

assembled car and from a point at which the work has partly been done. For instance, you might charge \$1.00 for installing a new hose connection. This would be worth, let us say, but 50 cents if you did not discover the necessity of installing it until you had removed the old one in connection with some other work, such as repairing the radiator. Your price for repairing the radiator having included removing and putting back the hose connections, it would not be fair to charge for installing a new hose connection at the regular rate.

**FOURTH**—A shop foreman or service manager who is thoroughly SOLD on the entire plan and who has worked right through it from the beginning. It will always be necessary for some such man to use a certain amount of judgment in connection with the price list.

#### YOUR FLAT RATE PRICE LIST WILL BE COMPOSED OF THREE CLASSES OF OPERATIONS:

- 1—Standard operations which have FIXED prices. These must not be changed by anyone from job to job. Lose the work first. Your averages have shown that the prices are correct in spite of what the workman may think about it. As you keep averages to prove them, you may raise or lower them from time to time, as they are affected by the cost of labor, the efficiency of your shop, etc. In the meantime each customer will be charged the same price for the same work.
- 2—Standard operations which may be changed. These will be marked with a star (\*). The reasons for varying the prices have been fully explained.
- 3—Standard operations which can never be priced in advance. These are marked with a cross (X) and con-

sist of fender work, etc., as previously explained.

#### How to Make Up the List

The best method of printing your Flat Rate Price List is to run the operations both numerically and alphabetically. If this is done any operation can be quickly found either from the name or the number. Proceed in this manner:

Take any sort of card file with an index running from A to Z. The size does not matter but, for convenience, either a 3 x 5 or a 4 x 6 card should be used. Since this file is used but temporarily, the backs of some old cards are just as good as new ones.

Start with Operation No. 1 in your loose leaf Operation Record Book—Form No. 8. Take the first blank card and head it:

Op. No. Description Price

#### RADIATOR—Drain and Refill.

Do not put down an operation number of the price just yet. That comes later.

Consult your Working Sheet—Form No. 2—to see whether Operation No. 1 has any group numbers. If not, the only thing necessary is to arrive at the number of hours or fractions of hours necessary to perform the operation itself. This is done by adding the averages for each month's operations and dividing by the number of months. Let us say, for the above operation, the average is 15 minutes or ¼ hour. Use decimals, since it is much easier to multiply them quickly and they make for greater accuracy.

In order to fix the price, then, for draining and refilling the radiator it is necessary only to multiply the average hours by the rate per hour necessary to make you a profit.

Digressing, for a moment let us look at this rate per hour. What fixes the charge to a customer for anything? How does the shoe manufacturer know what to charge for the shoes he makes?

#### Elements Which Fix Prices

Manufactured articles contain exactly the same elements which go to make up the repairs sold by the automobile repairshop. These elements are material and labor. In putting labor and material into shoes it is necessary to have a building in which to work. This building must be heated and lighted. Certain small findings must be used. There are taxes to pay, advertising to be done and office and general expense to be figured. The owner of the business must draw a certain stated salary therefrom as must the general manager and the other administrative employees. The shoes manufactured by the company for sale must pay for all of these things and also pay a legitimate profit, else the business MUST, of necessity, lose money. This is an obvious fact which hardly needs stating.

These same things enter into YOUR business. YOU are selling labor and material. In order to sell them you must have a building and must have heat and light. You must have certain office and administrative expense and must pay



*taxes and invest in tools and machinery and findings.*

Now let us suppose that, several years ago, this shoe manufacturer said that he would sell his shoes for \$4.00 per pair. This price, you understand, was made simply because other shoe manufacturers were selling shoes for that price when he started in business.

Year after year he sold shoes for \$4.00 per pair. In the meantime the cost of leather increased. The cost of labor increased. Everything which went into his shoes increased in price. Gradually his costs approached his selling price of \$4.00 per pair. After a time it cost more to make a pair of shoes than he received from the sale. In the meantime he had lost a lot of money and received no thanks for it from any source. *Would this not be the height of folly?*

**AND YET, IS THAT NOT WHAT THE AUTOMOBILE REPAIR BUSINESS HAS BEEN DOING, UNIVER- SALLY, THE COUNTRY OVER?**

Some time in the past some one fixed the charge per hour for automobile repair labor at 75c. For years automobiles were repaired at this price by all shops, large and small, regardless of the cost of labor or materials—regardless of whether rent and taxes were high or low. Perhaps later the rate was raised to \$1.00 by some shops. During the war the charge went to \$1.25 and in some localities \$1.50. Upon what were these charges based? Were they arbitrary or did these shops KNOW that the charge would pay all of the costs of production and still return a fair profit. We all know that, generally speaking, the former was the case.

The shoe manufacturer knows his costs. He adds to his costs a fair return on his investment—a legitimate profit—and thereby fixes the price of the shoes he manufactures. This price may be \$2.50 or it may be \$6.00, depending upon his policies as to quantity and quality of production.

In the same manner should the price of automobile repairs be determined. Each individual repairshop must KNOW ITS COSTS, and these costs—figuring everything—plus a fair profit MUST determine the charge to the customer if the repairshop is to succeed upon a business basis.

Some repairshops, due to good management and local conditions affecting their individual expenses and overhead, may make money without actually knowing their per-hour costs. But this is at best, a hit-and-miss proposition. If local conditions change, or labor goes up or they are forced to move into a more expensive location or any one of a dozen other easily imagined conditions happens, it is obvious that they cannot make the same amount of money upon the same basis of charging for repairs.

But, IF the charges are determined from the other way around, as they should be, *each month's statements will show costs.* While they may fluctuate a little each month without affecting the general result, on the other hand they

would immediately reflect an unusual condition, such as the war has recently brought about, with the result that they would automatically increase charges in order to maintain the same average profit based upon average volume.

### Policies Must Be Right

It is not my purpose to make the customer pay the penalty of conditions for which the individual repairshop is to blame purely and simply. The Flat Rate Plan offers the only opportunity I know of to collect repair bills without friction, but it cannot be used by the individual to cover up policies which are, fundamentally, opposed to good business practice.

The public is quick to detect poor work, lack of courteous treatment, inefficiency of handling work and failure to make good upon mistakes. If any repairman who reads this thinks that the plan here advocated will allow him to do these things he is sadly mistaken.

The fundamentals must exist in the individual establishment FIRST before any plan can be successful. The Flat Rate Plan will serve those who are otherwise good business men. *It will NOT serve as a cloak to hide wrong doing along other lines.* If you lost business,

### Study the Forms

therefore, because you are not doing business in the right way—because you lack courtesy, good workmen and proper arrangements otherwise—you cannot expect to raise your prices to offset the loss of volume due to these causes.

But if you are doing business efficiently and along the line of good business practice, the Flat Rate Plan will allow you to meet losses due to conditions over which you have no control, such as the scarcity of labor and materials and increased costs. *You will make money under it while your competitor loses money.* Your customers will absorb these increased costs just as do those of the shoe merchant. Your competitor, being bound to a stated per-hour charge, *will have to absorb them himself.*

If I have justified my position to you, then you will fix your prices from a standpoint of your costs and not upon an arbitrary per-hour rate.

### How to Segregate Costs

If you have kept your time sheets and ledger accounts accurately as explained previously, you will have before you a table each month as follows:

Total number of man hours paid for during month .....  
Average cost of all kinds of labor.....  
Average per-hour cost of management..  
Average per-hour cost of overhead (distribution of general accounts).....  
Average per-hour cost of direct expense..

Average per-hour cost of investment interest .....  
Total per-hour cost for the month.....  
Average amount collected per man hour..  
Less cost of each man hour paid for as above .....  
Leaving a profit for each hour of .....

Bear in mind that you will have to charge the repair department each month with its full share of all of the overhead. If it is conducted as a separate business it will have to stand everything of course. Many items of overhead are usually overlooked, such as taxes, insurance, etc. These are usually paid once a year and, if not looked out for in advance, will make the one month in which they are paid show a big loss and the other months a false profit. This is especially true of unusual taxes such as have been paid during the war.

Each of these should be handled with a "reserve account." Estimate them for the year as accurately as possible and charge this account each month with one-twelfth of the yearly total. The opposite entry would be a credit to "Tax Reserve Account" or "Insurance Reserve Account," as the case may be on your general ledger. If this is faithfully carried out, your cost table each month will leave nothing to guesswork. If you are not clear as to how to handle such matters, call in expert advice. Any accountant can change your book accounts to give you what you require if you will explain the proposition to him. There is nothing complicated about it. It is a matter of totaling columns each month, that is all.

Let us say then, that you have the above table as a basis and you find that every man hour is costing you actually \$1.00 per hour. You will find that your rate of \$1.25 or \$1.50 as the case may be, is reduced considerably, based upon the man hours you have to pay for. This is due to the fact that many of your men are non-productive. Some of your productive men are not busy all of the time due to the fluctuation in volume at different seasons. There will always be a certain amount of idle time no matter how busy you are, due to "readiness to serve," the accumulated loss of time between jobs, etc.

Now go a little further and take account of the NON-productive and IDLE time as shown by your time sheets. Let us say that the non-productive time amounts to 20% of the total time you pay for and that the actual idle time of productive men runs 5%. These figures are conservative, especially in the repair department of the automobile dealer who has a certain amount of "free service."

You now have the elements of your charge to customer:

- 1—The cost per hour of performing the work.
- 2—The non-productive and idle time.
- 3—The average volume of monthly business.

Let us say that your former rate of



charge was \$1.25 per hour and that you find your charge, based upon costs, will have to be \$1.50 per hour. Keep both charges in your Record Book as time goes on in order to give you a comparison.

Going back to the first card you have started, it looks something like this as a memorandum:

Op No.	Description.	Price
	RADIATOR—Drain and Refill.	
25 hrs.	×	\$1.50 = \$3.75

Thus, multiplying the average time for draining and refilling the radiator by the per hour charge of \$1.50, which you know you have to get on the average in order to pay costs and make a profit, you find that your charge will be 37½c. Always favor yourself with the fraction. This makes the price 40c. It is a raise of 5c because of your increase in the per-hour rate.

However, draining and refilling the radiator is an operation which the customer knows about in detail and usually watches. He has been used to paying \$1.00 per hour which amounts to 25c. Often he drives in simply to have this done, and one of your service men runs the car on the wash rack and flushes the radiator with a hose. The price, therefore, is one of those concerning which you must consider "policy" and the psychological effect upon the customer. *You should keep your old price of 25c on this particular job.*

This would appear, upon first thought, unfair to the customer since the average must be maintained by pricing some operations lower and others correspondingly higher. However, second thought will convince you that all repairing which is priced at flat rates in advance *must consider the law of averages* and, based upon this law, is not unfair to the customer.

Referring again to the illustration previously used, the concern repairing shoes has flat charges for its standard work. Yet, without doubt, some shoes cost more to half sole than others. The man who takes his shoes in while they are still easily and quickly half soled pays a higher per-hour rate than does the man who has worn his soles down to the uppers.

On the other hand, the shoe repairman cannot price certain kinds of jobs in advance. He must look at the individual job and, from his knowledge of such things, price it according to the per-hour rate he must maintain and the time he knows it will take. If he has a knowledge of costs the few jobs he is compelled to price in this way will maintain the average even though the prices are given in more or less of an offhand manner.

The above illustration covers a simple operation with no groups. When it is priced and completed with the exception of the operation number which it is to have it is placed back of the letter "R" in the card file. The next operation is then turned to and figured in the same way. When they are all priced, it will be seen that they are placed in the file

in alphabetical order without any operation numbers.

The file should then be gone through and the cards under each letter arranged alphabetically as to the second letter.

### Study the Forms

"ALCOHOL" should come before "AXLE," etc. Having done this, the operation numbers are put on each card in order from the first one under the letter "A" to the last one in the file under "Z."

As progress is made through the Operation Record Book, many complicated operations will be found. However, these become very simple when the group numbers are set down on the card. The aggregate hours of the group multiplied by the per-hour rate establishes the price regardless of the number of operations in the group. Form 9 is a sample card showing how it would be prepared to cover a complicated operation. The operation figured out is that of changing cylinder blocks on a Cadillac Type 57. The time shown for each operation composing the group is approximated.

It will be seen that the price put upon this job is somewhat higher than it actually figures. This is carrying out the idea, already stated that some jobs must absorb the loss on others. Following out so many operations on a job which is done comparatively seldom, some leeway must be taken. However, as time goes on and you work under the Flat Rate Plan, you will prove out all of these charges in a way that will leave nothing to guesswork. This method of proving out is covered in detail hereinafter.

#### Group Numbers Discarded

You will note that the group numbers are not retained in the Flat Rate Price List. It is unnecessary any longer to keep time on each individual part of the work. This system has served the purpose of establishing your prices as well as showing you how the work comes in. Many operations in the Record Book, you will find, have not been performed a single time during the average keeping period. They will be discarded.

However, the description of the group operations should be carried in the price list in order to explain to the man who sells the work just what has to be gone through with in order to perform the objective operation ordered by the customer. Many prices, quoted offhand, will seem high to the customer. But if the man selling the work is familiar with the approximate time required for each operation—and he will be if he has been properly educated during the time you have been keeping the averages—and if he is a SALESMAN, he will sell the job nine times out of ten.

It is well to retain a "Miscellaneous" operation under each heading for a time at least although ultimately these should

be eliminated as rapidly as possible in order to make the entire list DEFINITE and open to few chances of misinterpretation by the various employees who have to work with it.

On every "miscellaneous" operation be sure that your Record Book shows in detail the exact nature of the work performed. At the end of each month note how often the same work reoccurs. If you find that a certain work is being ordered often enough, it is easy to give it a separate operation number and price. In this way, in the course of time, the "miscellaneous" operations will be practically eliminated. Inserted operations should not disturb the numerical order. Use 22a, 40a, etc., until the entire list is newly written, say, once a year.

In the Flat Rate Price List you should continue to use unclassified numbers. These are easily distinguished if they run in even hundreds, starting high enough to miss your last regular operation number. Thus, if your last operation is numbered 240, you would begin your classified numbers, say, with 500. By using 500, 600, 700, 800, 900, etc., you provide a means of handling the unusual work caused by wrecks or "overhauling" jobs. These should be kept track of in the same way as the regular operations and, if there is constant reoccurrence of any certain work, new numbers may be added to the regular list in the same way as stated above for miscellaneous operations.

In no case should work not contemplated by any operation be done under that operation number. *This is an easy mistake to make especially if several persons take orders from the customers.*

In the small shop the orders may be checked over by the foreman before the work is started and corrections made as may be found necessary. In the large shop a definite method of checking is important, as mistakes of this kind will affect averages to an extent which will destroy confidence in the entire system.

One method of handling this order writing has for its basic principle the making of the order in triplicate, the first copy being the customer's invoice, the duplicate a copy for the service office files and the triplicate on light cardboard for the shop working order. Inasmuch as the customer's invoice should be typewritten, the "trouble shooters" simply make a note of the work the customer wants done on a form called "Memorandum of Service Required"—Form No. 10. These memos can be put into leather covers to keep them clean.

This form is turned into the service office where the operation numbers are supplied and the actual order written.

At the same writing a tag for the car is made for identification purposes. This triplicate order form and tag is shown in Forms 11, 12 and 13.

Each department foreman initials the Information Tag—Form 13—as the work in his department is finished, and this O.K. is accepted by the final tester for everything but mechanical work.

(The concluding installment of this series will appear May 7)



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

## Wants Real Distributer Contract

Editor Motor World: I wish to take advantage of your legal department by sending you a copy of a dealer contract which we are using, and would ask that you look this over and send any changes you would suggest to make this an absolute contract binding on one side as well as the other.

It is the general impression among dealers that they can enter into a contract of this kind by putting up a deposit and agreeing to take a specified number of cars in a specified length of time. They tie up the territory in which they are doing business and compel the distributor to pay a commission on all cars sold in that territory, even though they take no part in putting over the different cars. This, you will readily see, will allow a dealer, for instance, if he is selling Buick cars to contract with the other principal makers of cars in this particular territory in which the distributor agrees to forward all inquiries. If the dealer wants he can use these to sell Buick cars to. At the end of his contract, if he has money up in a form of a deposit, he can force the distributor to return it.

### Generally Favor Dealer

What we want is a contract that will stand the law and protect the distributor, allowing him to hold any money put up as a deposit for this specified territory. If this cannot be done we would like some suggestions as to a change in contract that would protect the distributor by giving the dealer protection only on cars he actually sells himself, thereby receiving no benefit from our advertising on cars purchaser should come to our office and buy. If you are familiar with the dealer contracts you know that at the present time it seems to be entirely one-sided—all in favor of the dealer; and it works a hardship to the distributor, who is spending thousands of dollars a year in advertising the car, as, you see, the dealer can tie up his territory by contracting and then lie down. Any information you can give along this line will be appreciated.—C. J. DUTTON AUTOMOTIVE CO., C. J. Dutton, President.

Answer—The decision in numerous cases between dealers and distributors or dealers and manufacturers has been in favor of the dealer. The reason for this has usually been that in these cases

the distributor or manufacturer was very anxious to take advantage of any possible default on the part of the dealer, but wanted things so arranged that it would be optional with it to furnish cars or not, and was also unwilling to be definitely bound to deliver them at any stated time or times or in any definite amount. The courts therefore refused to enforce these one-sided contracts and declared them void.

There is no good reason why you cannot draw up a contract providing that a dealer shall not have exclusive territory, shall receive no commission on cars other than those he personally sells, and that he shall not get back his deposit if he defaults. The only trouble with a contract of this kind is that it is doubtful whether you will be able to get any dealer to sign it, as it will come very close to being a bill of sale instead of an agency agreement.

We cannot undertake to draft special forms of contract for subscribers. The form you enclose is much more advantageous to you than the forms generally used. I note you have reserved the right to change prices and to be absolved from liability for failure to deliver. With these clauses you cannot hold the dealer if he fails to take the required number of cars. "You can't eat your cake and have it," as the old saying goes.

## Uncalled For Repairs

Editor Motor World: Will you kindly advise us as to the law on repair jobs which are not called for in a reasonable time. We have a good many jobs which we have been holding from two months to a year and are unable to get in touch with the owners.

We would like to know if we have the right to dispose of these jobs under the above circumstances. Any information you can give us along this line will be appreciated.—RELIANCE ELECTRIC CO., 711 Granby Street, Norfolk, Va.

Answer—What you can do with property left in your charge on which you have expended labor and for which you have furnished materials depends upon the nature of the property and the law of the State in which you are located. In Virginia you have a common law lien on property for labor expended and materials furnished. Under the common law you can hold the property under your

claim of lien until you are paid. Selling property under a lien is a highly technical procedure. I would not advise you to do it yourself. Let your local attorney take the responsibility.

## Be Sure of Contract

The importance of inserting a clause in contracts for the sale of automobiles to the effect that all of the conditions of the contract are contained therein is shown by a decision in a late Maryland case.

Suit was instituted for damages for breach of contract alleged on the sale of a Ford car. It appeared that the contract was in writing and provided that the purchase price was to be \$360 cash. The buyer contended that there was an agreement that the seller was to take a used car in payment of a part of the purchase price.

The Maryland Court of Appeals decided that where a contract for the sale of an automobile contains a clause, as this one did, to the effect that the contract "comprises the entire contract and no other agreement of any other kind, verbal understanding, or promise whatsoever, will be recognized," the buyer cannot successfully claim that there is an independent agreement that the seller is to take a used car in exchange as part payment of the purchase price set out in the contract.

## Hold the Car

Editor Motor World: We would like to know if there is a lien law in Iowa against cars for labor and other bills. If so, what steps must a garageman take or can he simply shut the doors and refuse to let car go out?—BERHOW & OLSON, Huxley, Iowa.

Answer—So far as I know the Iowa lien law has not been amended recently. Under the lien law, then, your lien depends upon your possession, and if you lose possession of the car or give it up you lose your lien. The thing to do is to keep possession of it and not give it up.

## Pullet in Production

MINNEAPOLIS, April 28—The Pullet Tractor Co. has reached the production stage and the tractor will make its appearance in the Northwest trade this year. The Pullet is a 4-plow machine of original design and was shown for the first time at the Industrial Exposition this year at Minneapolis.



# Editorial Observation

## Consider the Farmer

**E**VERY man engaged in the automotive business would do well this year and next to consider the farmer as a source of sales. In other words, prepare to develop your farm market to the maximum.

If you are selling motor cars, plan an intensive campaign for combing every last prospect out of the farm field and then plan a big sales effort for placing new and used cars in the hands of farmers.

If you are selling trucks, do likewise. There are thousands of farmers, in those sections where roads are at all suitable, who never have realized the extent to which they can use trucks on their farms and between their farms and other points.

If you are selling tractors, little needs to be said. Go after the farmer in a big way and get set in this coming business.

If you are selling automotive equipment there is an enormous field for your effort.

The reason is this: As compared with the rest of the country the farms are the most prosperous to-day and will be so in the immediate future. A third of the workers in the United States are on the farms. Also, farm prices are high and the price of wheat is guaranteed. This means that a third of the workers in the United States are to-day engaged in an enterprise which has an assured prosperity.

On the other hand, some of our other industries and activities are not as active as farming. Of course, industries are moving well, but they cannot compare

with farming in an assured prosperity of magnitude.

Practically the other third of our workers are engaged in manufacturing and mechanical pursuits, in which fields the prices are not guaranteed and the activity is not on the increase. Don't, however, get from this the idea that general business is not good—because it IS. But, while business is GOOD, farming is a darned sight BETTER.

For years dealers in automotive lines have been selling goods to city people and to farmers, with the majority of the car and truck sales in most sections to city people because it has been easier to do sales work in dense populations. Operating in cities where the population is thickest probably will always be the easiest way, but for the big future that lies ahead dealers should comb ALL markets thoroughly and this means MORE attention to the farmer.

He needs all kinds of automotive things and has more money than ever before. If he is a small farmer with a small income he probably has cash enough in the bank for a used car if not for a new car. And every sale made in the country means that an advertising point has been established, for farmers talk things over as city men do not. If Farmer Jones buys a good used car from you and likes it you have a good chance to sell one to his neighbor.

The farm field is the big field this year. Get after it. Develop it. Get established in it and have a well rounded out sales field which will give you a greater stability in business and an enlarged volume and profit.

## That Building for Your Show

**E**VERY year when show time comes around the entire trade begins to bewail the fact that there isn't a building in town big enough to hold a show such as the trade merits. And every year the dealers all declare that "their town" should erect a building for exposition and convention purposes in order that the city may hold its own in civic competition, bring to itself conventions and expositions and be a leader.

Generally the dealers, in the midst of their lamenting, get whatever building they can find, hold the show, and forget about the matter until another season creates the same dilemma. Then they lament again, hold the show, and forget it again.

This agitation for a convention hall and exposition

building should be continued NOW. The shows are over. The hubbub of show week has subsided and the dealers have more time to think of such things. Begin working NOW for such a building and maybe you can get it by 1921.

To start with, hold a meeting of the leading dealers, or the whole association, and sell every one the idea of "your city" having a building to which it can invite conventions and expositions.

Having sold yourselves, approach a selected list of influential people and sound them out on the idea. Get a good list of substantial people to support your idea, keep agitating, talking, boosting, getting newspaper publicity. Continued agitation for a good idea wins out some day. Start NOW and keep at it.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Will Hold an Opening

Editor Motor World: I am a subscriber to your magazine and appreciate it very much. I enjoy the letters to the dealers and answers to their queries and so am sending my first query. I am owner of the Junction Garage, and also operate the battery business in Mountain View. I am to combine the two businesses in a new building about June 1, and am asking you for plans and specifications and advice about an opening.

Should I send invitations—have each caller sign a visitor's register—serve refreshments, lunch and wafers at the accessory counter—have an orchestra—other forms of speeches—music, etc.? How long should the program be, how long should opening be; all day or only in evening? I have agency for the Dodge and Chandler motor cars and a truck, and could arrange a nice display as a show.—C. C. Skinner, Battery, Ignition & Starter Co., Mountain View, Cal.

## More Plate Glass Needed

Answer—The first point you bring up is that of plans. Generally speaking, the plan of your interior is very good. On inspecting the architect's drawing, however, we would suggest that you get a little more plate glass in front. Bring your salesroom window down a little lower and a little closer together and get more room for display.

The same also applies to your accessory store. Plate glass is one of the cheapest things you can put in your building, providing you use the display facilities after you have them installed.

At the right hand side of the door leading into the side of the building, against the end of the battery room, we believe it would be a good idea also to install a runway cabinet, which you will find illustrated in the Summer Merchandising number of Motor World, April 16. In this you put a display of automotive equipment, illuminated in fine style, so that it brings this merchandise to the attention of everyone who drives into the building.

As to your opening, we should send invitations, and it would be a good idea to have the visitors sign a register. We believe it will add to the interest of the occasion if you serve refreshments and have an orchestra, and it probably also would make it interesting if you follow out the program of music and speeches, as you have suggested in your letter. We believe you might well begin the program at 2:30 in the afternoon and start another one about 8 o'clock at night. Your own ideas on this subject seem to be so good that there is very little we

## WHAT ABOUT IT?

**E**VER since we have had daylight saving we have had conversation about it.

Some say one thing and some another.

What do you think of it, now that we have tried it for one year and are about to go through the second year?

How has it helped you?

How has it helped others of whom you know?

Or isn't it a good thing?

Is it a benefit to this trade or not?

What do you think of it, what do your employees think of it, how does it affect business and shop operation, and what about it all anyway?

can add. We are sure you will have a very successful affair if you go through with it along the lines you have outlined.

Your ideas on displaying your cars and trucks and other things are very good indeed, and we are sure you will have a really high-class performance if you go ahead with the ideas you seem to have in mind.

## Tractor Service

Editor Motor World: In your issue of Jan. 22, on pages 18 and 19, we notice some illustrations headed "A Few Ideas on Tractor Service." These pictures show a Fordson tractor being loaded on a Ford truck for transportation purposes. We will be glad to have all the additional information you are able to furnish concerning just how this tractor is loaded on the truck. We have recently taken on the Fordson tractor and all the pointers you can give us will be appreciated.—McGlamery-Sutton Auto Co., Greensboro, N. C.

Answer—The pictures which we showed illustrate two distinct methods of loading a tractor on to a truck. The first is a hand method by which the tractor is pulled up the planks by means of a winch, which is fastened to the forward part of the body of the truck, this winch being turned with a crank. This method is shown in the three pictures on page 19. The successive steps from top to bottom of the page are the placing of the planks in position with supports under the center to place the weight of the tractor so that the planks will not break. These planks, you will notice,

have a groove in the center to take the rim of the front wheels, as otherwise this rim would be liable to split the plank. The forward ends of the planks have hooks which hook into the bar forming the pin of the tailboard hinge. The cable which pulls the tractor up is steel rope, and the winch is such a one as can be purchased at any large hardware store or place handling builders' supplies. A hook is spliced into the end of the cable, and this hook is arranged to go around some part of the front axle of the tractor, then by turning the crank the tractor is pulled right up onto the truck. After the truck is in position, the boards or planks are placed in the truck alongside.

## Truck Must Be Braced

You will notice there are props placed under the rear of the body of the truck, so that when the tractor is in the position shown in the middle picture of the page, with the weight all on this part of the body, there will be no tendency to lift the front part of the truck off the ground. The portable work-bench which is shown in the pictures is stowed in a little place between the body and the chassis, and this is for use in repairs where the truck has to go out to perform minor operations on a tractor which is at work in the field.

The power method of pulling the tractor on to the truck is shown in the two photographs on page 18. A drum is rigidly attached to one of the rear wheels, and by suitable arrangement of pulleys the cable is wound up by means of the power of the engine, this wheel being jacked clear of the ground while the other wheel rests on the ground. This can be controlled by the clutch pedal in the driver's seat, and is of course a faster method but necessitates a little more trouble in jacking up the wheel, getting the cable around the drum and that sort of thing.—Editor.

## Worth Many Times the Cost

Editor Motor World: Copies of your magazine received a few days ago. They are great and worth many times their cost to any man or firm.—William P. Bishop, Valdosta, Ga.

## From Cover to Cover

Editor Motor World: I am enclosing a draft for my subscription to the Motor World to extend it for 2 years. My subscription doesn't run out until next January, but I cannot do without it. I get a whole lot when I get the Motor World. I can rarely wait until I get my copies to see what some of the rest are doing



and to get a hold of your short cuts. That is one of the best ideas there is to get the short cuts. One may think that his is the shortest way, but there is always a shorter way of doing things. For instance, your No. 2088 in the last issue.

I will give you a better one and a few more on a separate sheet. Also like your Better Mechanics. I read it through, cover to cover, every week, and I sure don't miss any of it.—E. B. J. Roufs, Winsted Garage, Winsted, Minn.

## SOME TAX QUESTIONS

*Answered for Dealers*

### N. A. D. A. May Fight Tax

Editor Motor World: In your issue of March 26 you have an article in regard to war tax. We have been visited by several representatives of the Government during the past year, and they have insisted that when we bought a Ford 1-ton truck chassis from the Ford Motor Co. and a body from one of the body builders we must pay an additional tax figured on the difference between 3 per cent of the total selling price of the truck plus the body and the war tax already paid by the Ford Motor Co. To be concrete, if we sell a \$550 Ford chassis and put a body on it which sells for \$150 we have had to pay the difference between 3 per cent of the total, which would be \$21, and the 3 per cent already paid by the Ford Motor Co. on the wholesale price of the chassis, which was \$13.61.

We didn't know anything about this until some months after the original law went into effect, and consequently had to pay back war tax amounting to \$100 or so. Since this, we have passed this additional tax on to each customer, and have remitted to the Government monthly. If we interpret your article correctly, this is no longer necessary. We would appreciate advice from you on this point.—Henderson & Lathrop, Auburn, N. Y.

Answer—Your situation as stated in your letter of April 17 is correct. Under the old law you were a manufacturer if you added a body to a chassis. Under the new law, you are not a manufacturer and do not have to pay a tax. The maker of the body and the maker of the chassis pay the tax and pass it on to you. We understand the National Automobile Dealers' Association is considering fighting this ruling.

### New Tax Different

Editor Motor World: Will you be kind enough to advise us who the individual is at Washington or the proper party in the revenue department to get in touch with to have them give us the ruling direct? There is considerable difficulty here displayed by the fact that the ruling handed out does not give us any effect prior to February this year.—Commercial Motor Sales Co., Cincinnati.

Answer—Address your inquiry regarding the tax to the Department of Internal Revenue, Washington, D. C., and it will be answered by any one of a number

of persons having charge of the collection of the tax.

In your letter you state that there is considerable difficulty displayed by the fact that the ruling handed out does not give any effect prior to February this year. This is the case: Under the old law, the dealer who added a body to a chassis was a manufacturer; under the new law, he is not a manufacturer, inasmuch as the maker of the chassis and the maker of the body have to pay the taxes on those articles.

### The Tax War

Editor Motor World: Please let us know if we have to pay a tax on parts that we manufacture in our automobile repairshop, which we use on repairs and also sell to users of our chassis. If a tax is due, when and how is it payable? Any other information on this subject will be appreciated.—Renault Selling Branch, Inc., 719 Fifth Avenue, New York City.

Answer—Our understanding of the law is that if you manufacture a part, you have to pay a tax on it to the collector of internal revenue in the city of New York. Get in touch with that office for the method of payment. If, however, it is a repair part, and not a manufactured part, our understanding is that you have to pay no tax at all.

We presume that you are referring to parts for Renault cars, which you have to make because you cannot get them from France, and in that case our impression is that you have to pay a tax.—Editor.

### Dealer Not Taxed

Editor Motor World: Your article in the issue of March 26 with reference to the war tax is very explicit and very helpful, as it dispels all those doubts that have been worrying the majority of dealers. However, craving your indulgence, we wish to take advantage of your offer to answer any questions connected with the tax.

We are an authorized Ford dealer, and as such sell a considerable number of commercial jobs, chassis, of course, being purchased from the Ford Motor Co. and the bodies from a commercial body factory.

Last January a representative of the Internal Revenue Department required us to report all sales of this nature back to Oct. 3, 1917, and return the amount of

the 3 per cent tax on our retail sale price of the complete job, including war tax already paid by the Ford Motor Co., but allowing us to deduct from the tax as figured in this manner, the tax already paid.

We complied with the requirements, of course, and have filed our return, with a protest, however.

Of course, the contention of the Revenue Collector was that we, by completing the automobile by the installation of a body, have constituted ourselves a manufacturer of automobiles in the eyes of the Government, and are therefore liable to the payment of a 3 per cent tax of our sale price of the complete job.

We feel that this is a misunderstanding as to the real intention of the law, as we cannot conceive how we can be construed to be a manufacturer in such a case, any more than in the cases where we install accessories on Ford automobiles of all models.

We have a regularly established accessory department, in which we sell any accessories connected with the Ford car, and we are of the opinion that if we sell these articles in connection with the sale of a car, we are no more a manufacturer than if we sold them separately from the car transaction. If you will kindly relieve our minds on this subject we shall greatly appreciate the favor.—Meldrum Motor Corp., Buffalo, N. Y., A. S. Meldrum, Manager.

Answer—Under the rulings made on the old tax, you were a manufacturer if you added a body to a car, but under the new tax the revenue is collected from the manufacturer of the chassis and from the manufacturer of the body, and from the manufacturer of the accessory, and the dealer is in no case construed as a manufacturer when he merely puts together goods as you are putting them together. This, however, was not true under the old tax, and, according to the old rulings, you would be construed as a manufacturer.

### Try This One

**This Is a Form Letter Being Sent Now to Car Owners by a New York Repairman**

Dear Sir: Anticipating that you will be having repairs made to your car in the near future, I am again taking the liberty of asking you for a continuance of your valued patronage.

Having had the pleasure of doing repair work for you in the past, I feel that you have enjoyed perfect satisfaction in all our dealings.

My organization, perfected after years of careful study, enables me to give personal attention to every detail of the work.

Thanking you for the valued patronage you have given me in the past, and assuring you that I will make a special effort to give you satisfaction in every way with all orders entrusted to me in the future, I remain,

Very truly yours,  
R. B. LAFFAY,  
Former Master Mechanic,  
Packard Motor Car Co.



*A Department of*

# BETTER MECHANICS

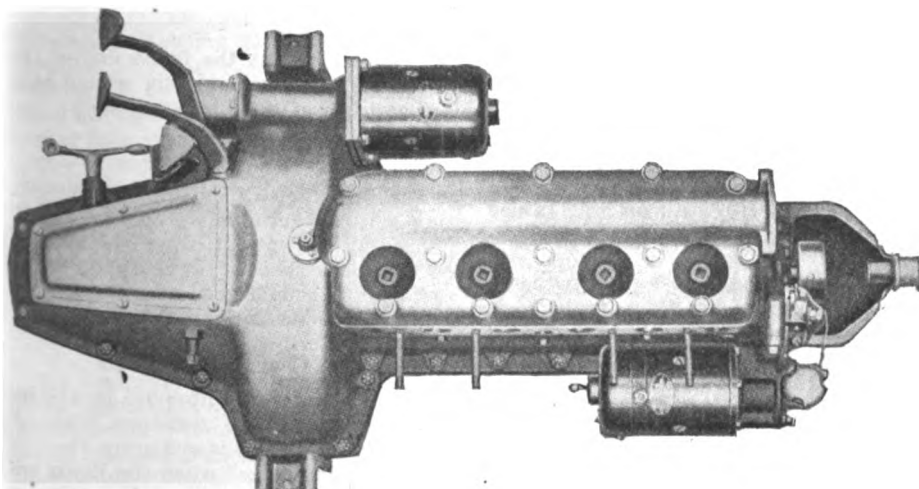
No. 102

*When making inquiries on this subject, state whether you save the back issues of MOTOR WORLD, as these inquiries can frequently be answered by reference to a previous issue.*

## *Care and Repair of the*

# F. A. Starting and Lighting System

## Installed on Ford Sedans and Coupes



*Fig. 1—Top view of the Ford power plant, showing the generator mounted at the right front of the engine and the starting motor engaging the teeth of the flywheel through the transmission cover*

**T**HE F. A. starting and lighting system now being installed on Ford sedans and coupés is of the two-unit type and consists of:

- 1—Starting motor.
- 2—Generator.
- 3—Storage battery.
- 4—Charging indicator.
- 5—Lights.
- 6—Necessary wiring and connections.

The starting motor is mounted on the left side of the engine and is bolted to the transmission cover. When in operation the pinion of the Bendix drive shaft engages with the teeth of the engine flywheel.

### Instructions for Starting the Engine

- 1—Place the spark and throttle levers

in the same position on the quadrant as when starting by hand—the spark lever in the third or fourth notch and the throttle lever in the fifth or sixth notch.

- 2—Turn on the ignition switch. The engine may be started either on battery or magneto, but the use of the magneto is strongly recommended, as just as hot a spark will be produced and the battery will have less drain put upon it. However, in very cold weather, when the starter will not turn the engine over very fast, owing to thickened oil, the battery will give quicker results in starting. As soon as the engine starts, switch to the magneto.

*The spark must not be advanced too far or the engine will backfire, and this may bend or break the shaft of the starter.*

- 3—Press down on the starter push button, which is located on the floor of the car at the driver's feet. This button connects the circuit and makes the current flow from the battery through the starting motor, causing it to turn and causing the Bendix drive shaft to engage with the flywheel teeth, turning the engine over.

- 4—If the engine is cold, it is primed by pulling out the carburetor priming rod, which is located on the instrument board. This should be held out for only a few seconds at a time to prevent flooding the carburetor.

### Causes of Failure to Start

- 1—If the starting motor turns the engine over and the engine refuses to start, the trouble is not in the starting system, but is in the engine or some of its accessories or equipment. In such a case release the button and look for trouble with ignition, carburetion, or other trouble with the engine. Continuing to press the button will only discharge the battery and will not remedy the trouble.

- 2—If the starting motor does not act when the button is pushed, then the trouble is in the starting system, and faults may be looked for as follows:

- 3—See that the connection to the terminal of the starting motor is tight.

- 4—See that the connections to the two battery terminals are tight.

- 5—See that the connections to the two terminals on the starting switch are tight.



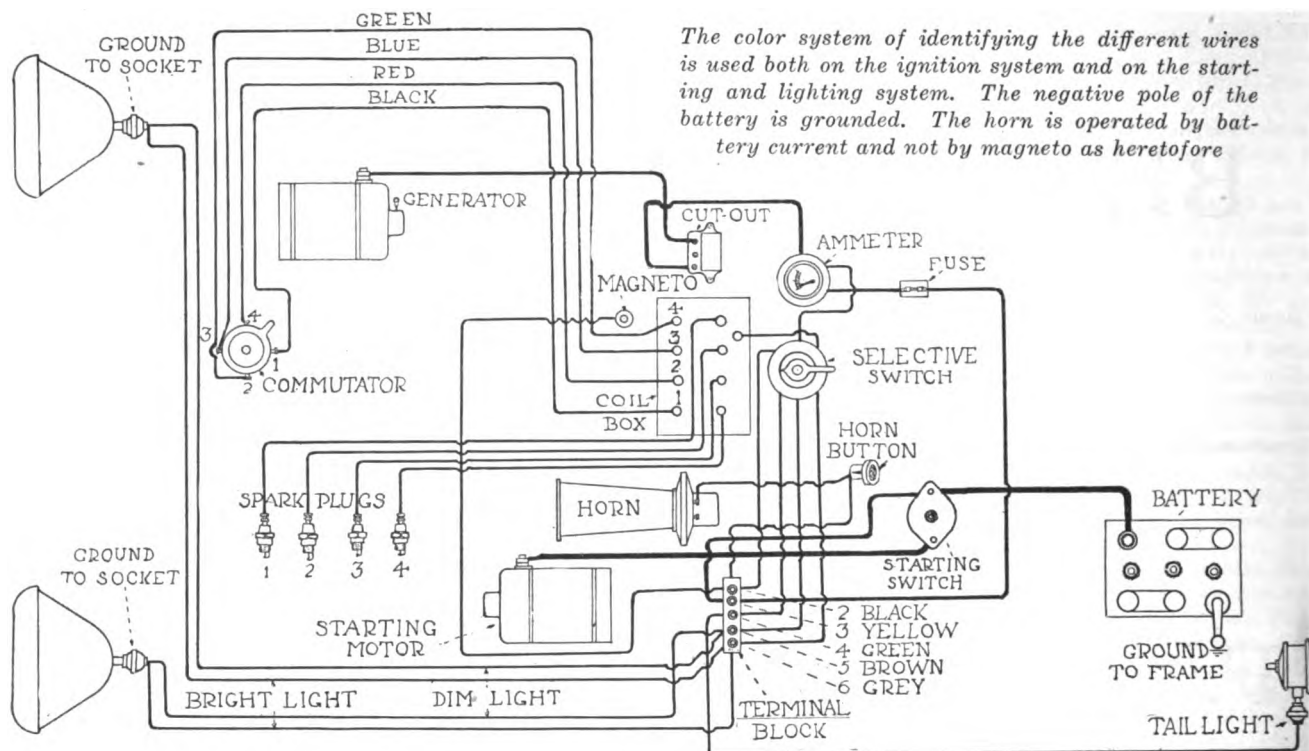


Fig. 2—Wiring diagram of the F. A. Starting and Lighting system as now installed on Ford Sedans and Coupes. The regular ignition system on the Ford is retained without change, but it is possible to use the current from the battery for ignition in addition to the magneto current.

6—See whether any of the wires are broken or have the insulation damaged so that a short circuit exists between the wire and the frame of the car or some other metal part.

7—Examine the condition of the battery. It may be run down. Test it with a hydrometer. If it is less than 1.225 there will not be enough current to turn the engine over. There may not be enough electrolyte in the cells to cover the tops of the plates and this may be caused either by evaporation or by a leaky battery jar.

#### The Generator

1—The generator is mounted on the right side of the engine and is bolted to the cylinder front end cover. The pinion of the armature shaft engages with the large timing gear, and the charging rate of the generator is set to cut in at engine speeds corresponding to car speeds of 10 m.p.h. It reaches its maximum rate at 20 m.p.h.

2—To remove the generator take out the three cap screws holding it to the front end cover.

3—Place the point of a screwdriver between the generator and the front end cover, prying it off. Start at the top and force it backward and downward at the same time.

4—If necessary to run the car without the generator, plates can be obtained from Ford branches to put over the timing gear.

5—If the engine is to be run with the generator disconnected from the battery, be sure that the generator is grounded to the engine frame by running a wire from the terminal of the generator to one of the valve-cover stud nuts. A piece of wire at least 1/16 in. in diameter should be used and both connections must be made tight. Failure to ground the generator when the engine is running with the generator disconnected will seriously injure the generator.

6—Ford dealers are instructed by the factory not to take the generator or starter apart, but to return the units to the Ford branch for repair or replacement.

7—The generator is lubricated by splash from the timing gears. There is

also an oil cup at the front end of the generator housing, and this should have a few drops of light oil each week.

#### The Cut-Out

The operation of cutting in and cutting out at suitable speeds is accomplished by the cut-out, which is mounted on the dash. This is set correctly at the factory and should need no other adjustment during its entire life.

#### The Charging Indicator

The charging indicator is on the instrument board. It registers "charge" when the generator is charging the battery and "discharge" when the lights are burning and the engine is not running at a greater speed than that corresponding to a car speed of 10 m.p.h. At a speed of over 15 m.p.h. the indicator should show a reading of 10 to 12 amperes with the lights burning. If the indicator does not show "charge" under such conditions,

1—Inspect the terminal posts of the indicator.

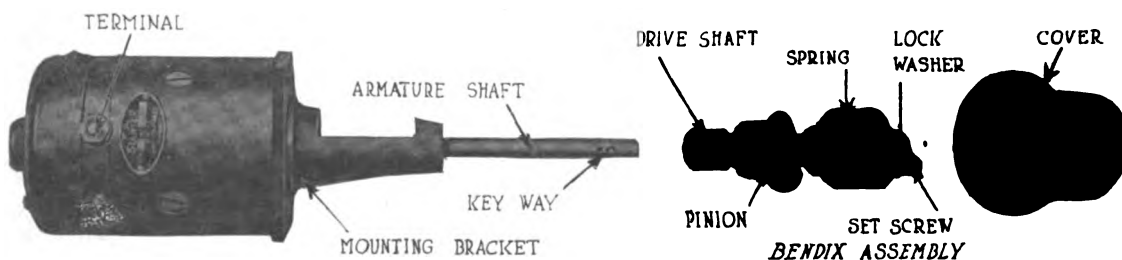


Fig. 3—The starter with Bendix drive. The cover on the opposite side of the transmission cover allows room for the pinion to move



- 2—Disconnect the wire from the terminal on the generator.
- 3—With the generator running at a moderate rate of speed, take a pair of pliers or a screwdriver and short circuit the terminal stud on the generator to the generator housing.
- 4—If the generator is generating current, a good hot spark will be observed.
- 5—Inspect the wiring from the generator through the charging indicator to the battery.

#### Removing the Starting Motor

- 1—Remove the left engine pan.
- 2—Remove the four small screws which hold the shaft cover to the transmission cover. These can be taken off with a screwdriver.
- 3—Take off the gasket.
- 4—Turn the Bendix drive shaft around so that the set screw on the end of the shaft is in an upright position or on top.
- 5—There is a lock washer immediately under the set screw and it has lips or extensions on it opposite each other on the outside diameter. One of these is turned against the collar and the other against the side of the set screw.
- 6—Bend back the lip which has been forced against the screw and remove the set screw.
- 7—The lock washer will be broken or weakened and should be junked and replaced with a new one.
- 8—Pull the assembly out of the housing. *Do not lose the small key.*
- 9—Remove the four screws that hold the starter housing to the transmission cover.
- 10—Pull out the starter, taking it down through the chassis where the left engine pan was taken out.
- 11—In replacing the starter, reverse these operations and be sure that the terminal connection is at the top.
- 12—If the engine is to be operated without the starter, plates can be obtained from Ford branches to put over the holes to keep the oil from flying out.

#### The Lights

The lighting system consists of two 2-bulb headlights operated by a combination lighting and ignition switch on the instrument board. The large bulbs are 6-8 volt, 17 c.p., and the small bulbs are 6-8 volt, 2 c.p. A small bulb, 6-8 volt, 2 c.p., is used in the tail lamp. All lamps are connected in parallel and the burning out of one lamp will not affect the others.

*Caution—Do not connect the lights to the magneto, as this will burn them out and may discharge the magneto magnets.*

The wiring and connections to the different lamps is shown in Fig. 2.

#### Battery Care and Maintenance

The battery is a 6-volt, 13-plate Exide type 3-XC-13-1. The following points are to be observed in testing, adjusting and taking care of the battery:

- 1—Under no circumstances must the current from the battery be allowed to pass through the coils of the magneto. Current flowing through these coils even for an instant would discharge the magnets and require the taking down of the engine and the installation of new mag-

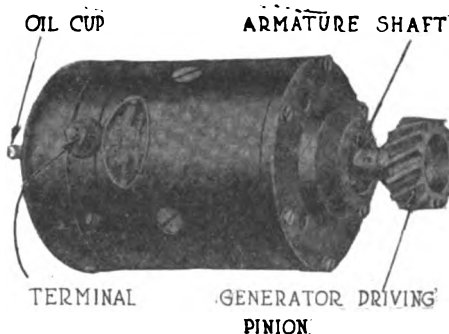


Fig. 4—The generator is driven from the large timing gear. It will be noted that the gears are spiral

nets, not to speak of possible damage that might be done to the coils themselves. To guard against this, disconnect the positive wire from the battery before doing any testing or working around the wires and wrap this terminal with tape so that it cannot make contact with anything. As the negative terminal is grounded to the frame, this will prevent the current from going anywhere until the positive terminal is connected again.

- 1—Add nothing but distilled water to the battery. This filling should be done at least once a week on cars that get ordinary use, and oftener on cars that are used constantly. Water will evaporate more quickly in summer than in winter and replacement will therefore be necessary at more frequent intervals in warm weather.

- 2—Test the density of the electrolyte at frequent intervals to make sure that the generator is keeping the battery charged. This is done by removing the filler cap of each cell in turn, sucking up some of the liquid with a hydrometer syringe and noting the number on the scale of the hydrometer that comes even with the top of the liquid.

A fully charged battery should read from 1.275 to 1.300.

A battery half charged will show a reading of 1.225 to 1.250.

A battery completely discharged will show a reading of less than 1.200.

- 3—Return the electrolyte to the cell from which it was taken and then proceed to the next one. The electrolyte of one cell must not be put in another cell.

- 4—Hydrometer tests must be taken after the battery has been charging. If the test is taken after adding water, the water will not have had a chance to mix thoroughly and the test will not show the true condition of the battery.

- 5—Continued operation of the car with the battery in a discharged condition will injure the battery. The cause of the run-down condition should be ascertained and fixed and the battery then charged from some outside source to bring it up to a fully charged condition.

- 6—Keep the filler caps in place and screwed down tight.

- 7—Keep the battery connections clean and tight. They should be coated with heavy grease or vaseline to protect the metal from the acid.

- 8—The battery must be secured firmly in place, and if the holddowns are loose, tighten them, as a loose battery will shift and jump around breaking the connections or damaging the insulation.

- 9—A voltmeter test of the cells should show 2.2 volts for each cell, or 6.6 volts for the three cells if the battery is fully charged. If the battery is discharged this voltage will drop to 1.75 volts per cell, or 5.25 volts for the three cells. The voltmeter reading is not as reliable or as accurate as the hydrometer for testing the condition of the battery, but it can be used as a check.

*Never connect an ammeter in circuit directly with the battery, as this will burn out the instrument or heat it so badly that it will be useless. It also imposes a severe drain on the battery.*

#### MELTING POINTS OF TWENTY OF THE MORE COMMONLY KNOWN METALS

##### Melting Points in Deg. Fahr.

Mercury .....	38	Zinc .....	786	Manganese .....	2237
Potassium .....	144	Antimony .....	1166	Nickel .....	2642
Sodium .....	207	Magnesium .....	1204	Cobalt .....	2714
Tin .....	450	Aluminum .....	1216	Iron .....	2768
Bismuth .....	518	Silver .....	1762	Platinum .....	3191
Cadmium .....	610	Gold .....	1945	Tungsten .....	5482
Lead .....	621	Copper .....	1981		

#### Engine Speed at 15 M.P.H.

Editor Motor World: We would like to have the following information: What is the engine speed of the Reo speed wagon when driving at a speed of 15 m.p.h.?—Harter Implement & Motor Co., Winfield, Kan.

**Answer**—The engine speed at the vehicle speed of 15 m.p.h. would be 604 r.p.m. This is figured out in this way:

The tire size is 34 in.  
Therefore the circumference of the tire is 112.8 in.

There are 63,360 in. in a mile and in 15 miles there are 950,400 in.

Dividing the circumference of the wheel into the number of inches in 15 miles we find that the wheel would make 8424 turns in this distance.

As this distance is covered in 1 hr., then the rear wheels make 8424 revolutions in 1 hr.

As the gear ratio is 43:1, the engine turns over 4.3 times as fast as the rear wheels, therefore the engine makes 36,223 revolutions in 1 hr., or 604 r.p.m.—Editor.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2107—NON-STEALABLE TIRE GAGE

To prevent the shop tire gage from being carried off, a light chain is soldered to the center of the gage and the other end of the chain is fastened to a croquet ball with a staple. The chain is about 12 in. long and a loop is attached about the center so that the whole outfit can be hung on a nail or hook.—Ralph M. Parsons, Amagansett, L. I., N. Y.

## No. 2108—MARKER FOR STOCK BINS

A marker for stock bins and tool racks is made by bending a piece of tin in a suitable shape to hold paper or paste-board cards. The corners of the tin are cut out with tinners' shears and the sides and bottom turned up. A hole is punched in the upper part and a tack holds the metal piece in place.—Claude H. Lytle, Lytle Bros. Garage, Neosho Rapids, Kan.

## No. 2109—ENGINE STAND FOR FORDS

A light and serviceable engine stand to hold the Ford engine is made from pipe and pipe fittings. The rear legs are made of two lengths of 1-in. pipe about 36 in. long and the front leg is a piece of pipe the same diameter but made only 30 in. long. Two tits and a fork are made as shown in the illustration and these are riveted into the three legs. The legs are then placed under the crankcase and three pieces of  $\frac{3}{4}$ -in. pipe are cut the proper length to form distance rods for the legs. Vees should be sawed or ground in the ends to facilitate welding. Floor flanges are screwed onto the bottom of the pipes to form feet, and if desired these can be screwed to the floor.—Ralph M. Parsons, Amagansett, L. I., N. Y.

## No. 2110—REMOVING OAKLAND VALVE SPRINGS

The valve springs on the Oakland engine are removed or replaced by setting cylinder head on the bench with the valve stems sticking up. A hook is made of  $\frac{1}{4}$ -in. rod and a Y-shaped lifter of flat iron. Pulling up on the lifter after it has been inserted in the ring of the hook will push down on the valve washers and the U-washers can then be taken out.—S. J. Meneely, John Schoemaker & Son, Newburgh, N. Y.

## No. 2111—REMOVING THE STUDEBAKER CLUTCH SPRING

The clutch spring of the later model Studebaker cars is removed by taking up

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

the floor boards, removing the grease plug which is in the hub of the clutch and then depressing the clutch pedal all the way. This will bring the spring just beyond the plug hole and if a nail punch is inserted in the hole it will hold the spring in this position when the clutch pedal is released.—D. S. Morrison Motor Inn, Emmetsburg, Iowa.

## No. 2112—LIFTING THE FRONT END OF THE M-90 OVERLAND

The front end of the Overland model M-90 is lifted with a two-piece bar which goes outside of the spring horns. The front apron prevents the use of a straight bar under the frame. The hooks are

made of  $\frac{3}{4}$ -in. bar, 8 in. long. The spacer is a piece of flat stock  $1\frac{1}{4} \times \frac{1}{2}$  in. Three-quarter in. holes are drilled in this spacer the right distance apart to prevent the hooks from slipping off the frame. The bar that goes through the eyes of the hooks is made from an old propeller shaft bent up at each end.—B. H. Andrews, foreman Willys-Overland Repair Shop, Albany, N. Y.

## No. 2113—MAGNETO COLLECTOR-RING CLEANER

A tool for cleaning the collector ring on the magneto is made of a short piece of  $\frac{3}{8}$ -in. brass or fibre tubing stuffed with round cotton wick. The carbon brush is unscrewed and the tool is inserted in the hole, pressing against the collector ring. Revolving the magneto with the wicking pressing against the ring will clean it off and the cotton will collect most of the dust.—John McGuckin, Brooklyn, N. Y.

## No. 2114—VALVE GRINDER FOR FORDS

A valve grinder for grinding the valves in the fourth cylinder of the Ford is made of a piece of  $\frac{3}{8}$ -in. rod bent into the shape shown in the illustration. Two holes are drilled immediately beneath the "handle" and wire nails are driven into these, the nails being spaced correctly to fit the holes in the valves. This construction can be made low enough to give good clearance under the dash.—J. Max Montgomery, Montgomery's Garage, Scottsburg, Ind.

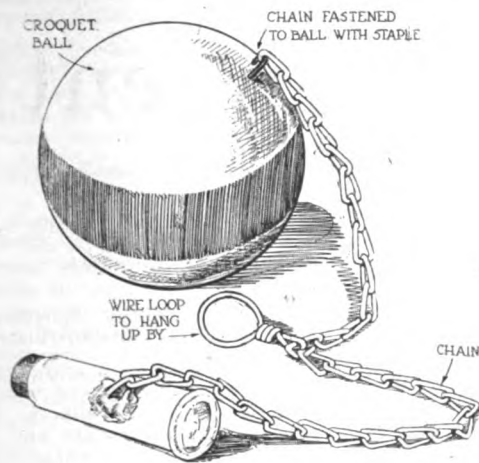
## No. 2115—WORK REST

A rest for the other end of work being held in a vise is made by riveting a piece of  $\frac{3}{4}$ - or 1-in. pipe to an ordinary carpenter's C-clamp. The upper part of the pipe is slit with a hack saw and the parts bent in the form of a Y. The lower part is also split and shaped so that it will go over both sides of the upper part of the clamp. Holes are then drilled through both the pipe and the clamp and rivets or bolts hold the pipe to the clamp.—C. H. S. Massey, Foss-Hughes Co., Philadelphia.

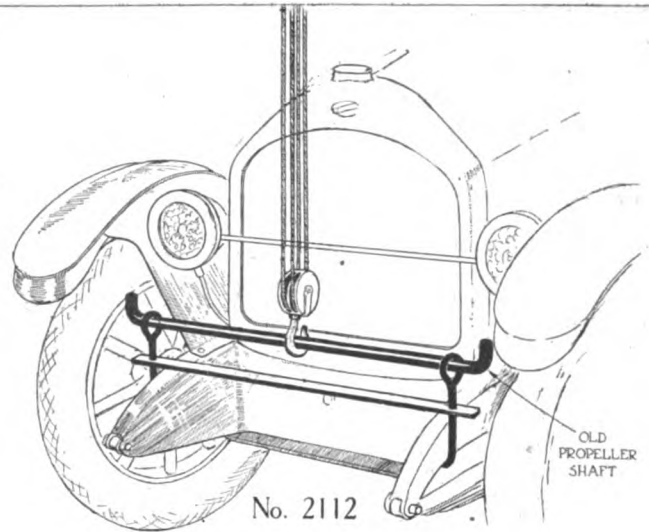
## Texas Registers 230,970 in First Quarter

AUSTIN, TEXAS, April 28—According to reports made to the State Highway Commission, there were registered 230,970 motor vehicles in Texas during the first 3 months of 1919. These include automobiles and motor trucks. The total number of motorcycles registered was 2146. During the 3 months' period 10,518 chauffeurs' licenses were issued.

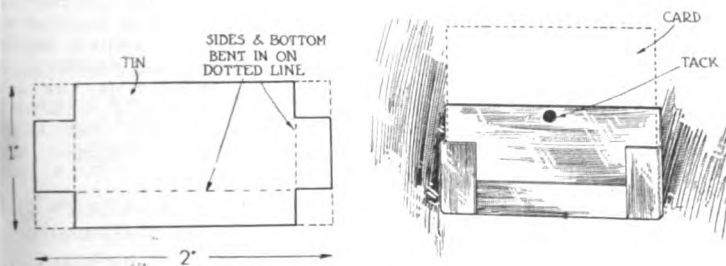




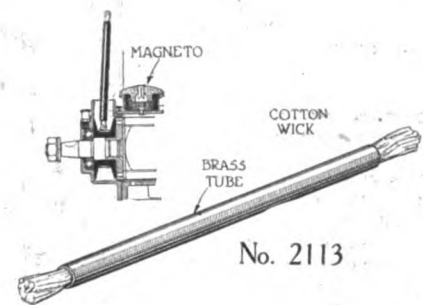
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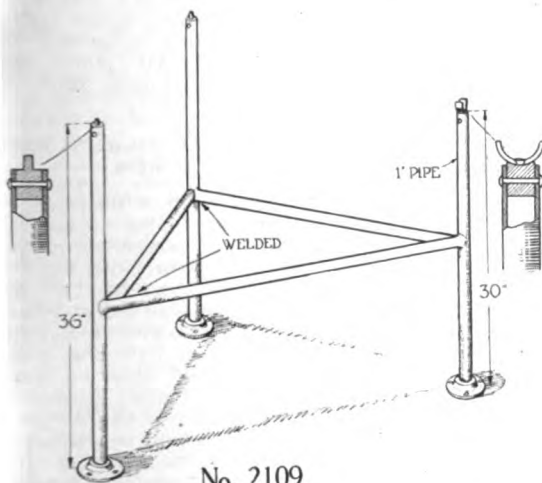
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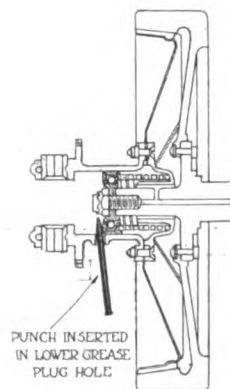
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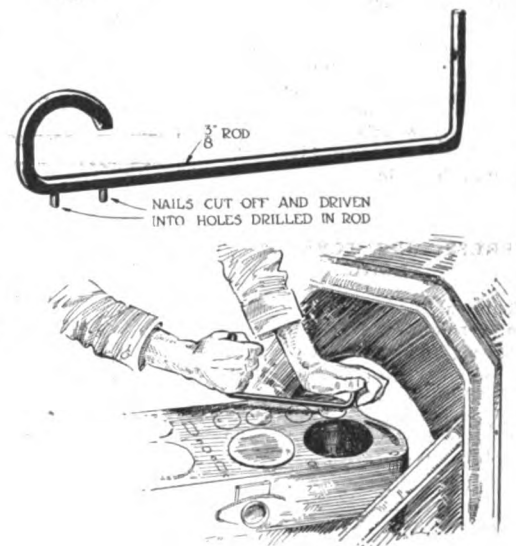
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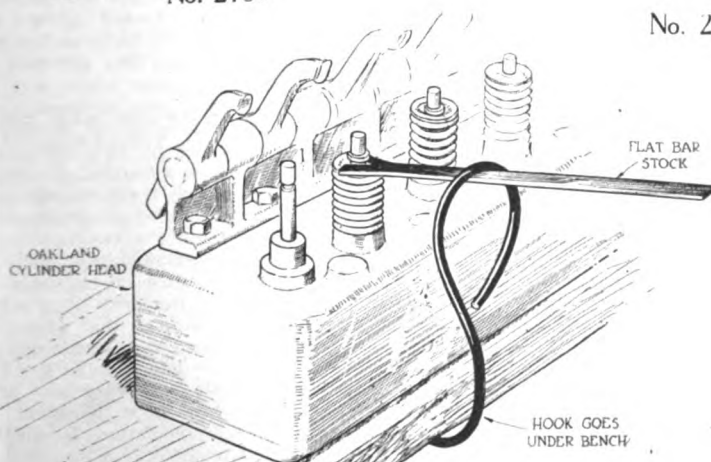
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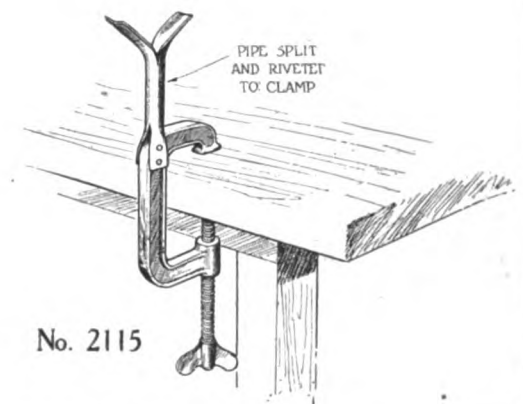
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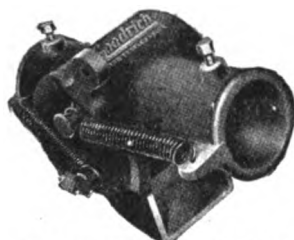
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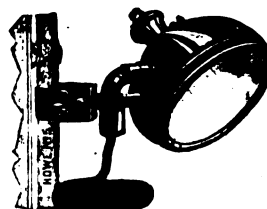
# Automotive Equipment

## GOODRICH ENGINE-TESTING VALVE

This is an engine-testing valve to be inserted in the exhaust pipe between the engine and the muffler. It produces a loud, clear note and the bell-mouth opening allows for ample expansion of the gases. When the valve is open, none of the exhaust goes through the muffler. Price, complete with pedal, cable and pulley, \$1.50 for Fords, and all 1½ in. pipe. \$3.50 for 1½ to 2½, \$4 for 2½ to 2¾, \$5.50 for 3 in., \$10 for 3½ in.—Goodrich-Lenhart Mfg. Co., Hamburg, Pa.



Goodrich Engine-Testing Valve



Howe Searchlight

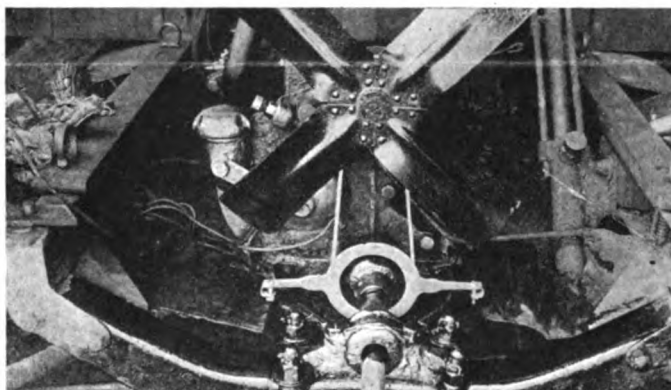
plete and occupies a floor space of one square yard.—Dennade Co., Cleveland.

## HOWE WINDSHIELD SEARCHLIGHTS

This is a searchlight for attaching to the windshield. It is fitted with a spring-controlled bracket and the choice of seven windshield clamps. The protection of the hollow bracket gives the wire protection against wear, short circuits, etc. The reflector is true parabolic and is heavily silver-plated. The switch is waterproof and the focusing device is controlled from the outside. Prices, \$4.50 to \$8.—Howe Lamp & Mfg. Co., 115-123 East Ontario Street, Chicago.

## CASCO FAN BELT GUIDE FOR FORDS

This is a guide to prevent the fan belt on the Ford car from running off the lower pulley. It is made of sheet metal in such form that it encircles the crank ratchet and is just in front of the lower fan pulley on the crank shaft. The two ends of the device are held by stove bolts to the engine. Can be applied in few minutes without the use of any other tools than a screw driver and a pair of pliers.—Casco Mfg. Co., Thomasville, Ga.



Casco Fan-Belt Guide

## FOUR SEES CARBON CLEANING COMPOUND

This is a liquid carbon-cleaning compound intended to be introduced into the cylinders through the spark plug holes or priming cups. Price \$1.50 per can.—Carbon Cleaning Compound Co., 901 North Euclid Avenue, St. Louis, Mo.

## PRESS-SURE TERMINAL TONG

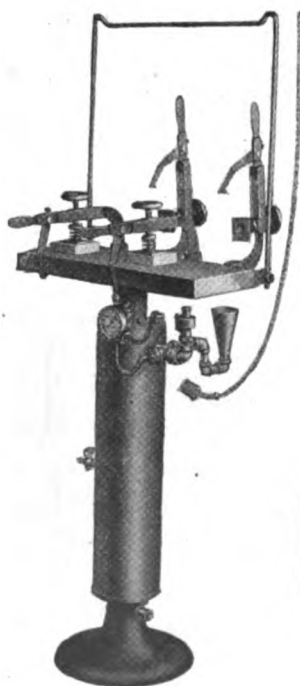
This is a tong for removing the terminals of the storage battery. The method of operating is to back the nut out about two threads and apply the tong and press the handles together. Price \$1.65.—Thompson Mfg. Co., Meadville, Pa.



Press-Sure Tong

## SEPCO VULCANIZERS

This is a vulcanizer for tubes and treads. The heat is obtained by steam which is generated by means of an electric current taken from any electric-light socket that is convenient. The pressure of steam automatically opens or closes an electric switch so that the temperature and consequently the pressure maintained in the vulcanizer is constant. 60 lb. of steam can be obtained inside of 12 min. after the current is turned on and after the desired temperature is obtained the current flows only half the time. Built in two sizes; one with four pressure arms and a plate 8 x 20 in., and one with six pressure arms and a plate 8 x 30 in. The heavier of the two machines weighs 125 lb. com-



Sepco Vulcanizer



Twin-Fire Salesman

## TWIN-FIRE SILENT SALESMAN

This is a counter demonstrator consisting of a vibrator coil in a mahogany-finished box, complete with all wiring and fixtures. The two metal clamps on top of the box each hold a spark plug and connection is made from the terminal of the spark plug to the coil by means of wire. Pressing the button connects the circuit and causes the high tension current to go through the plug. If the plug is in perfect shape the spark can be easily seen at the gap. Price \$3.70.—Twin Fire Spark Plug Co., Detroit.

## ALLIANCE GAS CONTROLLER

This is a controller which automatically regulates the amount of gas flowing to the steam generator of a vulcanizer or any other device using steam. As the pressure of the steam increases, the flow of gas is cut down and if the pressure of the steam decreases, more gas is allowed to flow to the burner so that the pressure of the steam is kept constant. The steam connection is made direct to the steam line at or near the steam gage. The gas inlet is connected to the main gas line. Price \$7.50.—Alliance Controller Co., Alliance, Ohio.

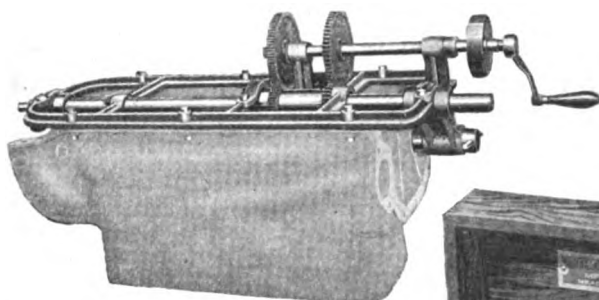


Alliance Gas Controller



# HEMPY-COOPER MAIN BEARING BORING MACHINE FOR FORDS AND FORDSONS

This is a machine for boring the main crankshaft bearings of Ford or Fordson cylinder blocks. The cutting bar is provided with three adjustable tools which do the cutting, the bar being revolved through gearing by means of a handle. The feed is automatic. A camshaft centering pin accurately locates the boring machine to the cylinder block so that the gear distance will be exact. The entire device is held to the cylinder block by means of cap screws and nuts which go through the crank case. A gage for correctly setting the tools is furnished with each outfit. Price \$125 for Ford Model T, \$150 for Fordson tractors.—Hempy-Cooper Mfg. Co., Firestone Building, Kansas City, Mo.



Hempy-Cooper Bearing Machine



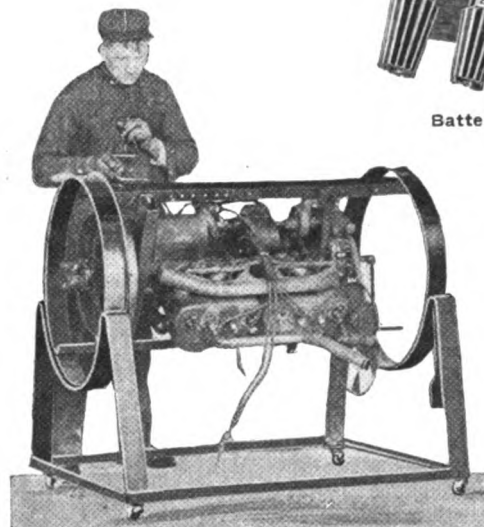
Battery Terminal Reamers

# TAPER TERMINAL REAMERS FOR STORAGE BATTERIES

This is a set of four reamers for keeping taper terminals on storage batteries clean and gas-tight. Each reamer is hardened and ground and will not remove any more metal than is necessary to insure a perfect connection. The four reamers will fit practically every taper connection used on automobiles. Nos. 2 and 3 are made end cutting which enables them to cut ahead of themselves where the taper hole is re-set. No. 4 reamer is special for the positive and negative connection used on the Dodge car. The set is furnished in a wooden box, together with a wrench for operating. Price \$5.20.—Thompson Mfg. Co., Meadville, Pa.

# UNIVERSAL REPAIR STAND

This is a stand for overhauling, testing and running in bearings on automobile, truck, tractor and airplane engines. The stand is mounted on casters and may easily be moved about and the engine is hung in the frame in such a way that the frame can be turned in any position, so that the engine may be right side up or upside down. The capacity of the stand is such that it will take any engine weighing up to 1400 lb. A quick-acting clamp locks the engine in any position and the equipment includes a Ford and three-point suspension bracket, a 14 in. wood pulley, shaft, coupling, and anchor screw eyes for making the stand stationary while running in bearings. By removing the top part, the stand can be used as a rear axle truck or front axle truck. Price \$40.—Ameling Mfg. Co., Sanborn, Iowa.



Universal Repair Stand



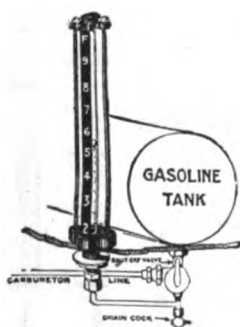
Red Star Timer

# RED STAR TIMER FOR FORDS

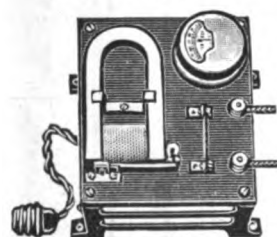
This is a timer for Fords in which the race is best quality fiber machined to a hard polished surface. The contact shoes are dove-tailed into the fiber with the terminals thoroughly insulated. The roller consists of a sleeve of case-hardened steel drawn to exact size and made fast to the rivet pin. The roller is made of case-hardened steel and fits the sleeve exactly. This is virtually a roller bearing. Price \$1.75.—Auto Components, Inc., 5-6 East Randolph Street, Chicago

# FORE ALTERNATING-CURRENT RECTIFIER

This is a vibrating-type rectifier made in a variety of different sizes to charge different numbers of batteries at once. It is intended to rectify and transform 110-volt alternating current to direct current of a proper voltage to charge the batteries. Type 1A, which is the smallest unit, will charge one 6-volt battery at a 6-ampere charging rate. Price \$20. Sizes range from this up to the Type 5-D, with a capacity of 36 volts, which will charge six 6-volt batteries at a 6-ampere charging rate. Price \$90.—Fore Electrical Mfg. Co., 5811 Easton Avenue, St. Louis, Mo.



Gasoline Gage



Fore Rectifier



Stayclean Timer

# GASOLINE GAGE FOR FORDS

This is a gasoline gage for Fords. It is intended to be placed directly in front of the heelboard of the driver's seat and is connected into the gasoline line between the sediment bulb and the drain cock. The level of the gasoline rises to the same height in the gage as it is in the tank and to enable the height of the liquid to easily be seen there is a cork ball which floats on top of the gasoline. Price \$3.—Baer & Glauber, 2041 East Ninety-third Street, Cleveland.

# E. & S. TIRE DISPLAY STAND

This is a stand for displaying tire casings. It is adjustable for any size tire and holds the tire up straight. Finished in black or gray, the price is \$1.75, \$2.25 in nickel.—Ellis Smith Mfg. Co., Inc., Buffalo.



E & S Tire Stand

# STAYCLEAN TIMER FOR FORDS

This is a timer elevator for Fords, consisting of a housing and a shaft with a bevel gear on the lower end. The timer is removed from its ordinary position, and a bevel gear placed on the end of the camshaft, this bevel gear driving the shaft in the elevator. The timer is thereby placed in a vertical position instead of a horizontal position, and it is elevated several inches. The installation of the device requires about a half hour, and no machine work is necessary. Price \$5.—Milwaukee Air Power Pump Co., 886 Third Street, Milwaukee.



# SCIENTIFIC CONSTRUCTION

GARAGES

SHOWROOMS

REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

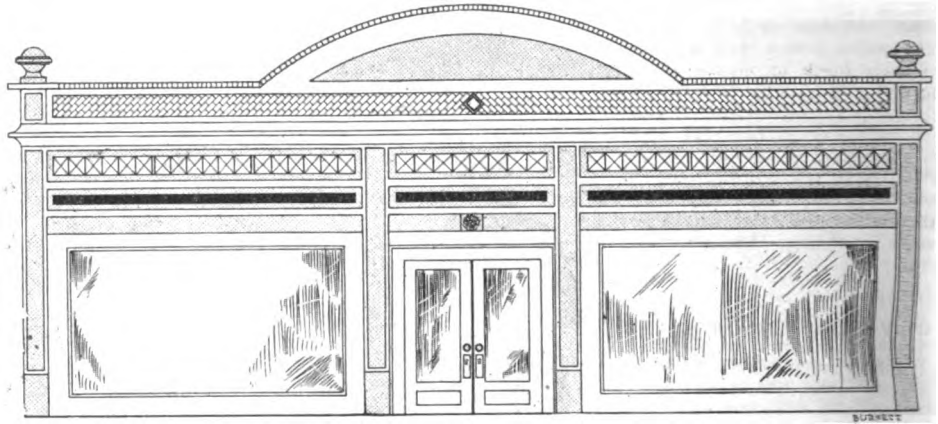
## A \$20,000 Garage

**Details Wanted**—Two-story building to cost from \$15,000 to \$20,000, ramp from first to second floor, storage on both floors.

**Name**—William Crysler Motor Co., Caruthersville, Mo.

**Answer**—It is difficult to lay out a building as large as the one you have in mind without more details than you have given. However, we are enclosing a plan which we believe will suit you.

Inasmuch as the storage space on the second floor is a little cramped we should advise storing the smaller cars upstairs as far as possible and place the larger ones downstairs.



The front design shown here provides one entrance for customers and cars. It is for a one-story building but may be adapted to two stories by building the upper floor in the rear only or by altering the design

## A Small Lot with a Back Street

**Character of Business**—Storage and washing.

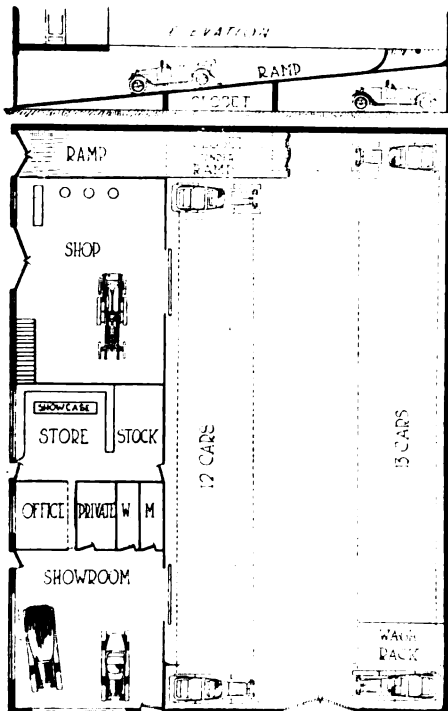
**Details Wanted**—Two stories on lot 62 ft. wide by 70 ft. deep to a narrow back street.

**Name**—C. Yarnall Abbott, Philadelphia.

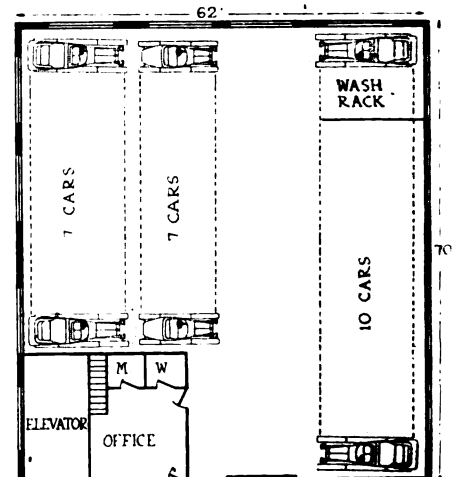
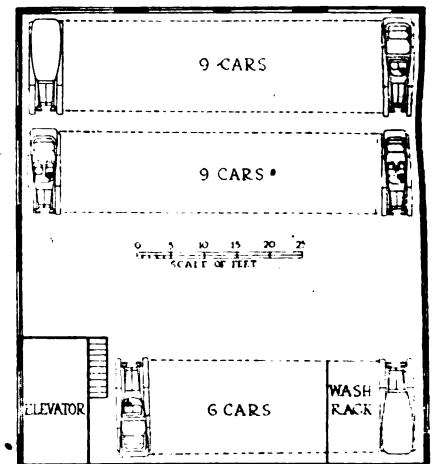
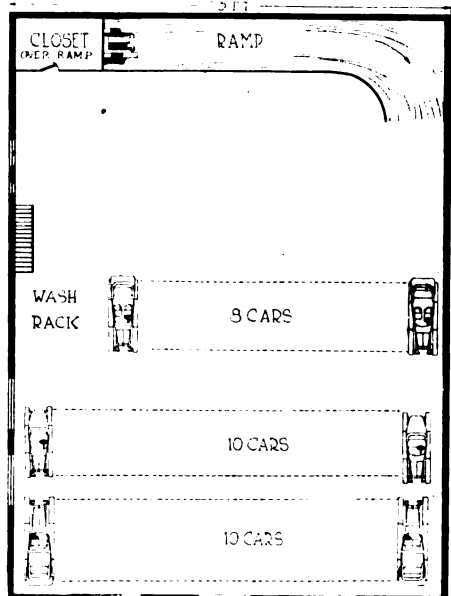
**Answer**—The dimensions of your plot are such that it permits of only one method of car arrangement. This arrangement is most economical and is

quite satisfactory if properly handled, but if you object to it we should strongly advise you to select a different plot.

If you will look at the attached plan you will note that instead of having one row of cars each side of an aisle, the usual arrangement, we have placed two rows of cars on one side. This is a very economical utilization of the space but you will naturally wonder how a man with a car in the back row is going to get out until the car right in front of him is out of the way. The solution is this: Cars in the back row (either floor) should be machines which come in late



This layout, for William Crysler, gives a capacity of over fifty cars, and a ramp is used to get the cars from the first to the second floor



Plan for C. Yarnall Abbott, showing two floors on a small plot



and leave early, and cars in the front row should be those which leave late and come in early, while those in the row by itself are those which cannot be so classified. Every time a new customer comes in, inquiry by the floor man will show whether he can be assigned to one of the three rows permanently or whether his plans for the next day must be ascertained each night, and the position of his car regulated accordingly. This is not theory but is what a great many garagemen are actually doing in various parts of the country as it is the most economical use of the space. At the same time if you prefer the more standard arrangement of one row each side of a central aisle, then you must eliminate one row on each floor, and this will prove a rather uneconomical use of the space inasmuch as the building is too wide for such an arrangement—50 ft. would be plenty.

As a matter of convenience and also for the sake of space economy the rows of cars on the second floor are placed at right angles to those on the first. The arrangement on the first floor (with a building width of 62 ft.) is just a little bit cramped for large cars and therefore it is advised that small and medium sized cars be stored here, as the second floor (with the same dimension, 70 ft.) offers plenty of room for the storage of large cars.

### Two Stor'es on a Corner Lot

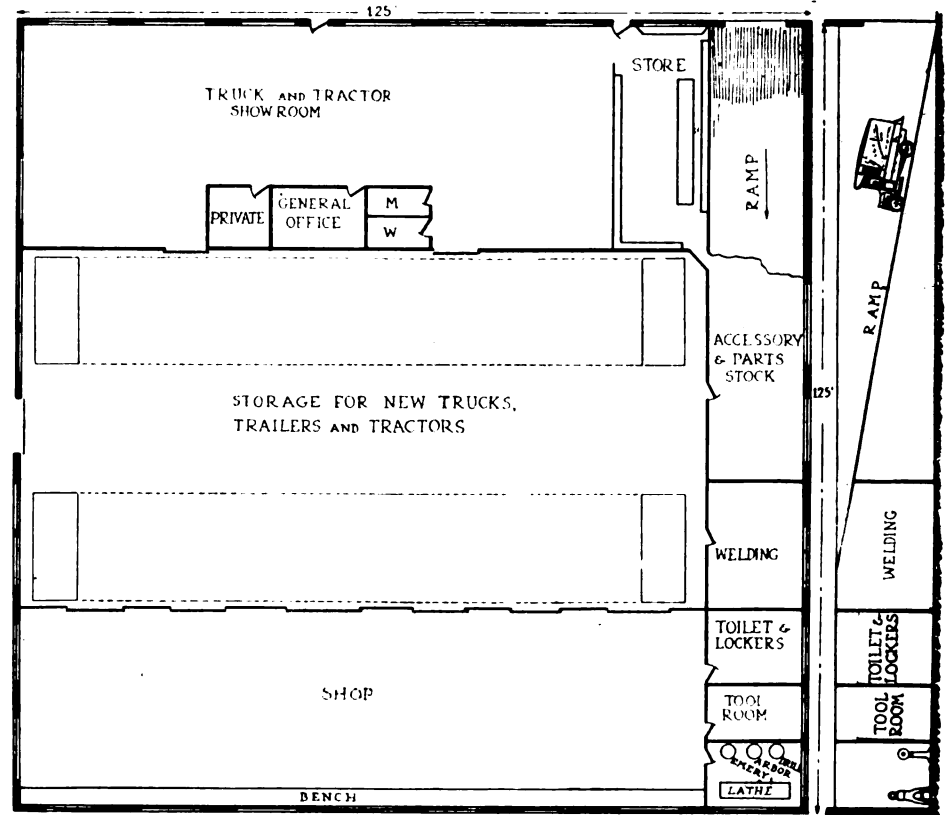
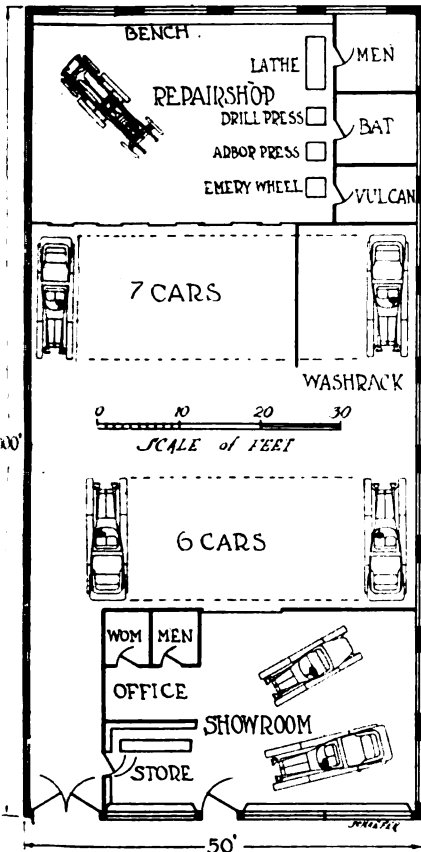
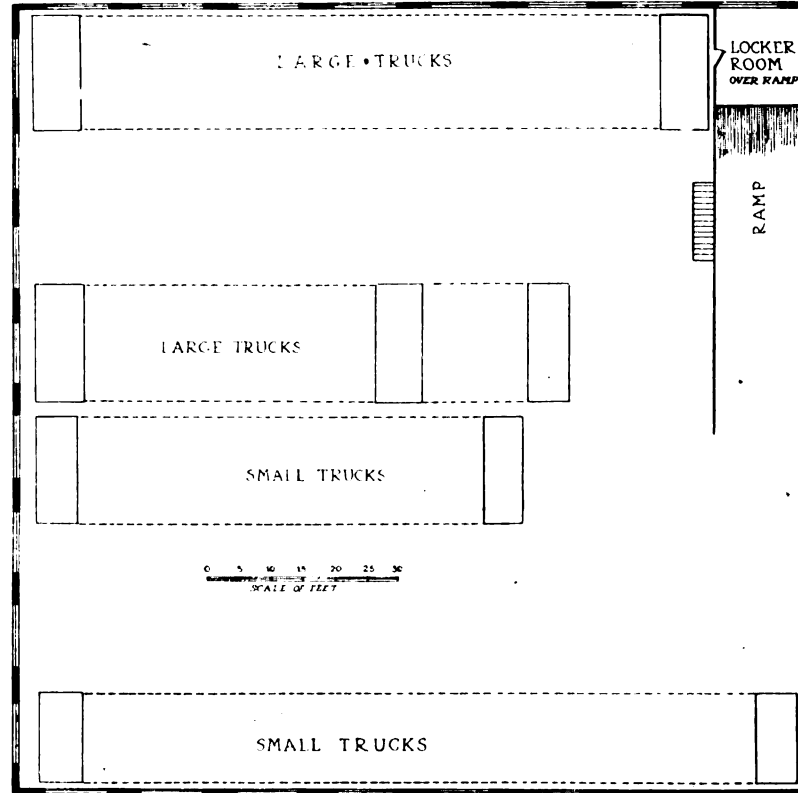
*Character of Business*—Truck, tractor, trailer and accessory sales, storage of trucks, tractors and trailers, service station, etc.

*Details Wanted*—Two-story building on a corner lot 125 x 125 ft., either ele-

vator or ramp, second floor for storage exclusively, first floor for sales, service and part for storage.

*Name*—Houston Motor Truck Co., Houston, Tex.

*Answer*—Herewith is plan drawn according to our understanding of your letter.



This is a plan for a one-story garage on a lot 50 x 150 ft. It has a capacity of 13 cars in storage besides the car on the wash rack and the cars in the shop. Separate rooms are provided for battery and fire work, and the show room and accessory store are out in front

Plan drawn for Houston Motor Truck Co., with two floors and a ramp



## Detroit Survey Emphasizes Car Shortage

Dealers Everywhere Need Cars and Factories Can't Meet Demand—  
Used Cars Need Close Attention

DETROIT, April 25—There is a shortage of automobiles in all sections of the country. While the big plants are now making nearly as many machines per day as in former years and their production will be normal within 30 days, the unusual demand of the motoring public has swamped them with orders.

The Ford Motor Co. is perhaps the best criterion of conditions. For the last 4 years this company has had approximately 100,000 unfilled orders on hand at all times. The company is now getting into big production again, and on April 24 it had 69,994 unfilled orders for immediate shipment. These orders are increasing daily in spite of the fact that the company is now running 2600 cars and will be producing 3000 cars daily within the course of the next 10 days.

The condition is similar with the Cadillac Motor Car Co., which has approximately 4500 unfilled orders on hand. The company is boosting production as fast as possible, but officials state that it will be several months before they will be able to catch up. The Detroit district is 100 orders behind on Cadillacs.

The Paige-Detroit Motor Car Co., now running approximately 70 cars a day, is unable to begin to supply the demand. If this company could double production to-morrow it would still take months to catch up with its orders.

The Hudson Motor Car Co. has 20 dealers who have sold their entire allotment for the year. These dealers, if they desire to continue in the automobile business, are up against the proposition of getting an increased allotment from the company, which, in the face of present conditions, is going to be very difficult, or take on some extra line to keep them busy. The Hudson company is rushing work on its new Essex plant, and it is probable that both Hudson and Essex production will be materially increased if present conditions continue.

### The Used Car Problem

An unusual situation is developing, and that is the used car problem. Few people purchased any cars during the war. Fifty per cent of the car purchasers turn in their used cars as part payment for new ones. This fact is flooding the used car market. The demand for cars is so great, however, that the buyers are snapping up every desirable machine, whether new or used. While this situation is taking care of it very nicely at present, it is already apparent that before the end of the year the average dealer is going to have a large stock of used cars on hand, and it is going to be necessary for him to specialize in the merchandising of used cars more than ever.

The factories are already coaching their distributors in used car merchan-

dising methods, advocating new painting, some remodeling, and in many cases, custom-made bodies as a means of promoting sales. With present conditions existing, even cars of obsolete models are being quickly snapped up after being attractively fixed up by the dealers.

The Willys-Overland Co. of Toledo has many distributors who have sold their entire allotment. The company is arranging now to get into production upon its new model, a light four, and it is planned to do this without curtailing in any way the production of its other lines. The company is now running approximately 600 cars a day, while its orders for machines are several thousand cars ahead of production.

While the Packard Motor Car Co. is just getting into production, its dealers in every section are pressing it for cars, and hundreds of orders are piling up in its sales department. Work at the plant to get into production is being pushed to the limit, but owing to the fact that the company has lost several months of the year, due to the necessity of practically remodeling the entire plant to handle peace work again, its production is bound to fall far below the car demand.

### 18,000 for Hupmobile

The Hupp Motor Car Co.'s production schedule calls for 18,000 cars this year. The demand to date is practically 50 per cent greater than production. Sales officials say 30,000 Hupmobiles could be sold within the next 8 months if the factory was able to produce them. This year's production is 50 per cent greater than that of any previous year. Every Hupmobile dealer is oversold, and is constantly urging greater car shipments. The company has had 2500 unfilled orders on its books to-day.

The production system used by Dodge Brothers is rather unusual, in that it fixes no set production for the year, aiming to produce just as many cars as is possible each day. The company is now running between 500 and 550 cars daily, yet it is hopelessly behind in orders. Within the last 10 days many letters and telegrams have been received from dealers in every section urging immediate shipment. Some dealers are 100 per cent oversold, the great majority being unable to promise delivery within from 3 to 6 months.

The Reo Motor Car Co., Lansing, Mich., has orders ahead for 4000 cars. Owing to the immense amount of work necessary to make this shift from war to peace basis, this company is not yet in full production. In certain departments a great deal of Government machinery is stored, and it will be some time before the entire facilities of the big establishment will be available. The car shortage is very pronounced in every

section, sales officials declare. The company is now running approximately 60 cars a day, but owing to its inability to reach capacity production at present no annual production schedule has been made. The company has 1800 distributors, 90 per cent of which have sold their quota for months to come.

## Browne Gets First Airplane

MILWAUKEE, WIS., April 26—History was made to-day when the first commercial airplane to enter the confines of Wisconsin arrived in Milwaukee in the charge of a Milwaukee pilot for delivery to George W. Browne, Inc., the first distributor of flying craft on a commercial basis. The Browne company, which is distributor of the Overland line, on Jan. 1 became representative of the Curtiss Aeroplane & Motor Corporation, New York, and at the annual Milwaukee show exhibited a model in the Auditorium.

The Curtiss was flown from Ashburn Field, near Chicago, to Lake Park, Milwaukee, by Lieut. Gilles E. Meisenheimer, son of a wealthy Milwaukee business man, who recently received his discharge from the Canadian Royal Flying Corps, in which he served as instructor at Camp Borden, Ont., for more than a year. Lieut. Meisenheimer is now a member of the George W. Browne staff, in charge of demonstration and instruction in the aircraft department. The Curtiss which he brought from Chicago is the first demonstrator to be used by the Browne company.

The machine is a Curtiss tractor, model JN4-D2, with a maximum speed of 80 m.p.h., powered with an 8-cylinder V-type Curtiss OX motor of 90 h.p. at 1400 r.p.m.

A stock of aircraft parts, the first to be installed by a motor car salesroom in the Middle West, has been received by the Browne company. One or two additional demonstrating machines will be delivered during May. Several machines have been sold to Milwaukee young men and six more in Minnesota. Deliveries probably will be made by mid-summer.

The Curtiss demonstrator will make daily flights in Milwaukee and through Eastern Wisconsin during the Victory Liberty Loan drive. A tour of several days' duration through the Fox River valley and down the shore of Lake Michigan will be undertaken during the coming week. The Milwaukee Journal, a leading afternoon newspaper, has chartered the machine and crew for this purpose. The co-operation of this publication with the Browne company is regarded as promotion work of exceptional value.

### Steel Spring Piston Co. Formed

NEW YORK, April 28—The Steel Spring Piston Ring Co. has been formed by A. J. H. Kuhsiek, formerly factory superintendent of Edward V. Hartford, Inc., and A. Mayer, formerly production manager of the same concern. It will make the Bull Dog ring, a three-piece ring having several novel sales points.



# The RETAIL NEWS

## MIDDLE WEST

**Miller-Van Horn Co.**, Columbus, Ohio, has just opened one of the largest service stations in this city. It is devoted exclusively to Ford sales and service. It has a Main Street frontage of 90 ft. and a depth of 187½ ft.

**Republic Motor Sales Co., Inc.**, Grand Rapids, has been organized under the management of W. B. Rayburn, for the distribution of the Republic in Western Michigan.

**Glenn Bennett and L. P. Williamson** have formed a partnership and opened sales and service station in Detroit. They have been appointed distributors for Transport and the Four-Wheel-Drive trucks.

**Central Garage Co.** is to be incorporated in Akron with a capitalization of \$500,000, and a building to house the sales and service departments of the company will be erected at once. The building contract calls for an expenditure of \$450,000. The structure will be 400 x 150, four stories high. The officers are: President, James P. Loomis; vice-president, George W. Billow; secretary and treasurer, John A. Brittain.

**The Heller Sales Co.**, Wapwillepen, Pa., has opened a service station in Wilkebarre, Pa., for the distribution of Commerce trucks in that territory.

**Toledo Rebuilt Tire Co.**, Toledo, has been organized by Joseph Conley and Otto Gutnacht and specialize in retreading tires. Conley is in active charge of the business. Both men were formerly with the Electric-Auto-Light Co.

**W. C. Wampler of the Wampler Auto Co.**, Dayton, will shortly begin the erection of a four-story reinforced concrete, brick-faced building costing \$75,000. The building will be used as a garage and salesroom for the Wampler Co., distributor of Ford cars and Kelley trucks in that territory. It will have a capacity for 500 cars.

**Briscoe Sales Co.**, has been organized in Grand Rapids, Mich., by L. C. Preston and W. J. Cole of Lansing. Both men were Briscoe dealers in Lansing for the last 3 years.

**Battery Service Co.** is the name of a new firm organized in Grand Rapids, Mich. The company has taken temporary quarters in the Berton Spring Garage. A full line of tires and other accessories will also be handled.

**Fred H. Pfeifle**, formerly with the service branch of the Cadillac Motor Car Co., has opened up a general repairing and overhauling business in Detroit under the style "Auto Shop."

**Butts Motor Sales Co.**, Springfield, Ill., has been organized and a sales agency, garage and service station opened at 723 East Adams Street. Passenger cars, trucks and tractors will be distributed in the Sangamon county territory.

**C. A. Robinson**, Dwight, Ill., has opened a garage and sales agency on East Main Street. He will handle passenger cars, trucks and tractors and do a general repair and storage business.

**The Everready Battery Service, Inc.**, has been organized in Detroit to distribute that battery in Detroit and Wayne County. The incorporators are Arthur J. B. Mann, Alfred T. Gibson and D. E. Meyer. Mann, for 13 years, was connected with Farrand, Williams

& Clark, while Gibson is president of the Detroit Shade Tree Co. The firm will also operate a battery storage station and take care of other makes of storage batteries.

**Robinson & Kreamer**, Aurora, Ill., dealers in motor vehicle supplies, have opened a branch store in Joliet of three stories and with 30,000 sq. ft. of floor space. The Joliet branch is the first of a chain of stores to be opened in the principal cities of Illinois. The headquarters will be retained in Aurora.

**Stearns Sales Agency**, Milwaukee, Wis., has been formed out of the Edgar F. Sanger Co., Stearns distributor and dealer, to continue the business at the present location, 156 Farwell Avenue. Edgar F. Sanger, head of the company, died several months ago. Capt. Robert N. Winslow, late of the U. S. Army, and formerly connected with the Sanger company, is general manager of the reorganized concern.

**Freedom Automobile Co.**, Freedom, Wis., has been organized to act as local dealer of the Brad-Ford Co., Appleton, Wis., district distributor of the Ford and Fordson. A garage and service station are being provided.

**Auto Electric Co.**, Milwaukee, has been incorporated with a capital stock of \$10,000 to manufacture, deal in and install automotive starting, lighting, ignition and signaling devices. The incorporators are John Storm, Alfred Beyer and A. J. Bernard.

**De Grand Garage Co.**, Escanaba, Mich., has been organized by A. and J. De Grand, to conduct a garage and service station. William O'Connors, Chicago, will manage the business. The location is 112-114 North Norris Street, Escanaba.

**Harvey and Roy Sims**, Waukesha, Wis., are establishing a sales and service business at North Lake, Wis., near Waukesha.

**Welton Motor Co.**, Madison, Wis., has been appointed Wisconsin distributor of the Miami trailer. C. R. Welton is manager.

**McGowan Co.**, Madison, Wis., has been established at 112 South Pinckney Street by M. S. McGowan to act as Wisconsin selling agent of the Oil-Kipp chassis lubricator, made by the Madison-Kipp Lubricator Co., Madison, Wis.

**Badger Sheet Metal Works**, Milwaukee, has been established at 1323 State Street and will manufacture and repair fenders, radiators, lamps, etc.

**Conrad Milhaupt & Son**, Appleton, Wis., are building a one-story building, 50 x 70, which will be devoted to automotive repairs and replacements.

**Faust Auto Co.**, Oshkosh, Wis., has taken over the garage and repairshop formerly owned and operated by Thomas Neville.

**A. C. Webb Motor Car Co.** has been organized in Indianapolis to handle Moon cars. The company has contracted for 400.

**Superior Tire & Automobile Co.**, Superior, Wis., is completing and remodeling a large garage and has taken the agency for Paterson cars.

**D. R. Jones**, Columbus, Wis., has rented a building on Main Street and has taken the agency for Dodge and Paterson cars.

**The Richland Center Motor Car Co.**, Richland Center, Wis., is contemplating larger quarters and has taken the agency for the Paterson.

**Paterson Motor Car Sales Co.**, 2805-2812

Vliet Street, Milwaukee, has just completed another story in its salesroom and garage.

**Licking Motor Sales Co.**, Newark, Ohio, has just opened a salesroom at Masonic Building, where it will act as distributor for the Mitchell and Dort. The personnel of the company is Ed. Hatfield, C. B. Shaeffer, J. H. Tavenner.

## COAST

**H & B Motor Co.**, Yakima, Wash., will build a garage and salesroom to cost \$10,000.

**A. H. Meagley**, Portland, one-story brick garage, 95 x 100.

**E. B. MacNaughton**, Portland, one-story brick, 50 x 100.

**Don L. Ehle**, Seattle, brick and concrete garage, two-story, 100 x 72, to cost \$40,000.

**Frank A. Rivers Co.**, Seattle, has opened a tire rebuilding establishment at 1928 Westlake Avenue.

**Truck Tire Co.**, Seattle, comprising A. A. Gray and F. W. Landquist, Firestone truck tire dealer, has opened quarters at Yesler Way and Western Avenue, where they have a repairshop.

**Regner & Fields**, Portland, Chevrolet dealer, will move June 1 from present location at Grand Avenue and East Ankeny Street to a new building under construction at Fourteenth and Alder. The new quarters will be 50 x 150, two stories, costing \$40,000.

**Cook & Gill**, Portland, Paige distributor, will construct a four-story reinforced concrete salesroom, garage and machine shop, 75 x 112, to cost \$60,000.

**August Junge**, Portland, Diamond T truck dealer of Oregon, Inc., will construct a one-story, 50 x 94, brick and concrete salesroom and service station at Ninth and Flanders Streets.

**Ackley & Miller**, Tillamook, Ore., will construct a one-story concrete garage, 105 x 143, to cost \$20,000.

**Manley Auto Co.**, Portland, distributor of the Hupmobile, Grant and National and Kelly-Springfield trucks, has been reorganized and its capital stock doubled. C. M. Menzies has been elected secretary and general manager. A. B. Manley continues as president.

**Charles S. Harper, Inc.**, Willard storage battery station, Portland, will construct a new brick and concrete building, one-story, 50 x 100, at Ninth and Everett Streets.

**Charles C. Fagan Co., Inc.**, Portland, Pierce-Arrow dealer, will build a two-story brick and concrete salesroom and service station, costing \$75,000, at Ninth and Burnside Streets.

**Brunn Motor Car Co.**, Portland, Lexington distributor, will occupy a new building about May 15 at Broadway and Couch Street. Structure will be 50 x 95 ft., brick and concrete.

**McKinley Auto Co.**, Waitsburg, Wash., will build concrete garage, 80 x 105 ft., to cost \$11,000.

**S. P. Lockwood**, Portland, will construct one-story concrete garage, 50 x 175 ft., to cost \$13,000.

**Labbe Bros.**, Portland, will build one-story garage at Ninth and Davis Streets, to cost \$10,000.

**W. W. Wheat**, 2019 Twenty-fourth Avenue, Seattle, will construct one-story garage, 93 x 60 ft., to cost \$13,250.

**W. L. Eaton Motor Car Co.**, Seattle, Dodge distributor, will build a two-story garage and salesroom, 121 x 58 ft., to cost \$45,000, at Twelfth Avenue and Pike Street. An accessory department will be included.

**S. D. Burnstein**, Portland, will construct a one-story garage and salesroom, to be 57 x 140 ft., costing \$15,000.



**Centralia Auto Co.**, Centralia, Wash., will construct a concrete garage and salesroom, 75 x 100 ft., to cost about \$10,000.

**Stanley Griffiths**, 502 Burke Building, Seattle, will construct a two-story, 108 x 120 ft., brick garage, to cost \$20,000.

**Universal Tire Filler Co.**, Seattle, has taken over The Modern Garage, 26 West-lake Avenue North, which will be used in expanding its plant.

**Thomas M. Hart Co.**, Seattle, has recently moved into a newly decorated and refinished building at East Pike and Belmont Avenue. The company distributes bearings.

**The Distributors Corp.**, with main office at San Francisco, has opened a Seattle branch for distribution of Hassler shock absorbers for Ford cars and trucks. Office and salesrooms are at 601 East Pike Street, under management of Emanuel Secord.

**Automotive Service Agency of California** has just entered the Pacific Coast field with headquarters at San Francisco. It is headed by Ernest Ingold and is being incorporated with a capital of \$100,000 and has a large building at 1452 Bush Street. Its carburetor department will be housed in a modern plant of its own at 1143 Post Street after May 1. The new company becomes central distributor for Northern California for USL batteries and starters. It has established to date fourteen new stations. It also represents the following lines: Atwater Kent ignition, Auto-Lite starters, Berling magnetos, Bijur electric starters, Elsemann magnetos, Leece-Neville electric starters, Pasco wire wheels, Stromberg carburetors, Van Sicklen speedometers, Waltham speedometers, Ward Leonard regulators and motors and Westinghouse electric starters.

**H. Coppel**, formerly San Francisco manager for the Lichtenberg-Ferguson Co., distributor of Norwalk tires, has formed a partnership with George C. Salch, who has been in the importing business for the past 25 years in San Francisco. The new firm has adopted the firm name of Salch-Coppel Co. and has secured a distributing agency for the complete Dayton tire line for California, Arizona, Nevada and the Hawaiian Islands. Salesrooms and service station have been established at 1426 Market Street, San Francisco.

**W. A. Leet**, operating as the Affordable Sales Agency, has opened salesrooms at 516 Van Ness Avenue, San Francisco, to distribute the A-Ford-Able truck unit in Northern California.

**Skinner & Pearson**, owners of the Junction Garage at Mountain View, Cal., have erected a new building 75 x 125 at the corner of California and Castro Streets in that city, which will be used as a general garage and salesrooms for Dodge and Chandler cars. The building was erected at a cost of \$9,000.

**R. E. Barney**, for 12 years in charge of the service department of the F. O. Renstrom Company, has purchased the interest of A. Nelson in the tire business and vulcanizing shop of Anderson & Nelson at 679 Golden Gate Avenue, San Francisco. The firm name of Anderson & Barney has been adopted.

**W. J. Close, Jr.**, and **A. J. Close** have purchased the Garden City Rubber Works at 361 West Santa Clara Street, San Jose, Cal.

**E. M. Saunders**, operating the Madera Service Station at Madera, Cal., is erecting a 40 x 80 building, part of which will be occupied by Skaggs & Daniel as a Gould Battery service station.

**Hilton & Billingsley** have opened a truck and tractor repairshop at 1234 Mission Street, San Francisco.

**S. W. Zentner**, handling Chevrolet and Scripps-Booth cars and G M C trucks is erecting a new 50 x 100 building on Seventeenth Street, Merced, Cal.

**S. W. Johnson**, formerly service manager of the Goodyear Company in Canada, has established a vulcanizing plant and tire salesrooms at 429 Seventeenth Street, Merced, Cal.

**Brunn Motor Car Co.**, Lexington distributor, Portland, Ore., on May 1 will occupy new quarters on Broadway Street, near Couch. The building is concrete, 50 x 95.

**Charles C. Fagan Co., Inc.**, Pierce-Arrow distributor, Portland, Ore., is building a 2-story salesroom and service station at Ninth and Burnside Streets. The building will be 100 x 100, of brick and concrete, and with equipment will cost \$75,000.

**Cook & Gill**, Paige distributor, Portland, Ore., have leased a site 75 x 112 at Eleventh and Burnside Streets for a 4-story garage, machine shop and salesroom. The building will be concrete, and will cost \$60,000.

## SOUTH

**Auto Equipment Co.** has opened for business at Winston-Salem, N. C. It is an accessory dealer.

## SOUTHWEST

**Diamond Tire Service** has opened for business in Houston, Tex. It has a completely equipped vulcanizing shop.

## MOUNTAIN

**Union Motor Co.**, Denver, has taken the distributing agency for the Templar for Colorado, Wyoming and New Mexico, and will build a new showroom, garage and shop. H. F. Arnold, Jr., is president of the company.

**E. McLeran, Haxtum, Col.**, has been appointed distributor for Parker trucks in the States of Colorado, Wyoming, Montana, Nebraska, and the Dakotas.

## EAST

**Kirk & Ochs**, Harrisburg, will open a garage at Sixteenth and Walnut Streets. Cole and Liberty cars, for which the firm is local distributor, also will be carried.

**Charles Mahan**, Philadelphia, will build a garage at 7246-7260 Ogontz Avenue, to cost \$4,800.

**C. Webber**, Philadelphia, will build a garage at 729 Raymond Street.

**Robert Beatty**, Philadelphia, has let a contract for the erection of a garage at 1026 East Tioga Street.

**Harry S. Swope**, Philadelphia, will build a \$3,000 garage addition at 4352 Griscom Street.

**H. De Greet**, Philadelphia, plans to build a garage at 5418 Westford Road.

**Jacob Gaertner**, Philadelphia, plans to build a garage at 1305 North Sixty-fifth Street.

**Philadelphia Trailmobile Co.**, capitalized at \$25,000, has been organized to distribute Trailmobiles in the territory comprising half, each, of Pennsylvania, New Jersey and Delaware. Salesrooms have been opened at 2220 Chestnut Street, Philadelphia. Lieutenant F. C. Holmgren, of the Ordnance Department, United States Army, recently returned from France, has been appointed manager. The officers of the company are: President, W. E. Shipley; Secretary, Morris Shipley; Vice-President and General Manager, F. C. Holmgren.

**Fair Tire and Rubber Co.**, under the management of Norman Gerstman, of Buffalo, N. Y., has opened salesrooms at 317 Chestnut Street, Harrisburg.

**Liberty Garage**, which will be operated by the management of the Harrisburg Auto Tire Repair Co., Kirk & Ochs, at Sixteenth and Walnut Streets, Harrisburg, will be ready for occupancy May 1. Liberty and Cole cars will be handled.

**The Larson Oldsmobile Co.** has leased the modern seven-story building at Broad and

Brown Streets, Philadelphia. The service department will be greatly enlarged and moved into the structure, where a full line of parts will be carried; the company will retain its present salesrooms at 231 North Broad Street.

**The Lance Motor Car Co.**, Reading, has opened a distributing house in Philadelphia and will handle Commerce trucks. The firm name is changed to the Lance Motor Truck Co. The Reading address is Eighth and Franklin streets.

**B. F. Hoffman** has been appointed agent for the Fordson tractor for the Pennsylvania district, including Philadelphia, Montgomery and Bucks counties and the State of Delaware.

**Charles R. Barnes**, formerly manager for Westcott Burlingame, Albany, Cadillac dealer, has opened a service station for Reo cars and trucks at 208 Elk Street. Jesse Schoolcraft, formerly with the Willys-Overland, is associated as salesman and Gustav Hufland as service manager.

**Warren Tire Stores Co.** of New York, Bangor, Me., has been formed to take over the business of the Warren Auto Supply Co. It is capitalized at \$750,000 and will distribute Lee tires in the State of Maine. Officers are: President and treasurer, Edgar J. Warren, Harold B. Russ, and Charles A. Greenacre.

**New England Velle Co.** has been formed in Tilton, N. H., to handle Velle cars. It is building a garage 78 x 100 to cost about \$25,000.

**National Motor Products Co.**, with temporary quarters at 48 West Twenty-first Street, New York, has been formed by E. A. Fife, R. A. Van Allen, both of whom were formerly connected with the Otter Mfg. Co. The company will manufacture and job ignition and starting and lighting equipment parts. It plans to cover the United States and will send out four traveling men.

## "I'll Wait for Lower Prices"

(Continued from page 17)

in the automobile or motor factory. Labor has increased all over the world. Didn't you read that story in Motor World last week on 'Why Prices Can't Drop'? There are enough statistics in that story to get any prospect so balled up he'll buy a car because of mere confusion of mind.

"Read that story again. It tells how the price of labor has increased in countries far removed from and unaffected by the war. The Mexican peon, the native of South America, the be-shirted gink in Egypt, the coppery looking Hindoo in India—they have all had their wages stepped up. And why? Because of inflation.

"And what is inflation? It is nothing except a lot of money. Without going into details, inflation always brings high prices. This means that until there is less currency there cannot be lower prices. This means that until the excess paper money is withdrawn, until credit is contracted, until the bond issues are redeemed, there isn't a piker's chance of a reduction in general prices. And what is this inflation? A mere trifle. Only about two hundred and sixty-six billion dollars, and the interest that must be paid is ten billions a year where it used to be two. Your grandchildren may see lower prices—but you? It's a dream."



# Silhouette and Playboy Are Jordan's New Models

*A Touring Car and Roadster with Solid Aluminum Bodies Are Striking Innovations—Many Changes Made in the Chassis Design—Closed Bodies Round Out the Line*

**T**WO new body models, the Silhouette and the Playboy, the former a touring car and the latter a roadster, have now been added by the Jordan Motor Car Co., Cleveland. The bodies are of aluminum, with a new type of broad, wide-opening door with outside hinges which allow the doors to describe a full half circle.

The Silhouette has a French angle at the dash, a seat cowl and a perfectly straight top edge without even the slightest bevel. In the tonneau there is a Cordovan leather boot and saddle bag and the lamps are mounted on the inside of the front fenders. The colors are Egyptian bronze and Burgundy old wine.

The Playboy is a 2-passenger roadster with a cockpit seat behind, and the windshield is tilted and built in flush with the dash cowl. The body sides are deep but not high, while the cushions are on Marshall springs and rest almost on the floor. The tilt is much in excess of the usual angle and the upholstery is hand-buffed leather with the narrow type of French pleats. The instrument board is metal and is cushioned to prevent squeaking. The equipment on the board is full nickel.

## Chassis Changes

Changes have been made in the design of the chassis, most of these being in the nature of details to give added strength and balance. The new spring device to eliminate rattles consists of two coiled springs, one on each side of the main spring, with ground steel washers inserted between the chassis spring and the coil spring to provide good wearing surface. A self-adjusting grease cover encloses the coil springs and the whole device is packed in graphite grease.

The tire equipment is Goodyear cord, 32 x 4½ in. Artillery wheels are standard equipment, but either wire or disk wheels can be had. The Playboy is finished in scarlet and Burgundy old wine.

A brougham and town sedan are the enclosed models, and these are finished in Liberty blue or Brewster green.

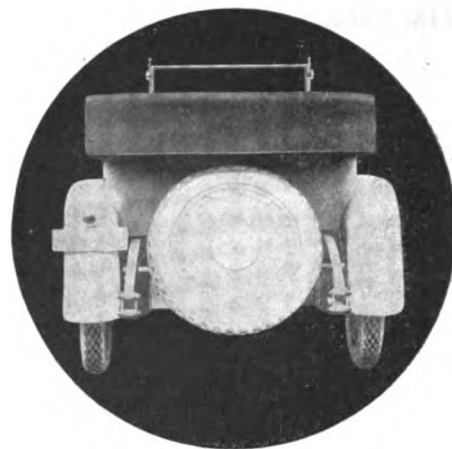
## Henshaw's Original Idea

**BOSTON, April 25**—C. S. Henshaw, head of the Henshaw Motor Co., Dodge Bros.' distributor in Eastern Massachusetts, has an original idea working among his sales force. The salesmen there now have the privilege of bidding for the day floor rights. Each man in turn has his regular day to be in charge of the floor.

And any other may bid for the privilege of getting the floor any day if the man who is entitled to it desires to sell his rights. The generally established price for a release is \$25, but this sum does not tempt some of the men, for it is not the profit per car which acts as an incentive, but rather the knowledge that the men with the best records are always in line for promotion, as the Henshaw Motor Co. is known as one that makes very few changes in its organization, thereby encouraging the salesmen to their best efforts.

## \$150,000 Show Building for Denver

**DENVER, April 26**—As a result of the Denver Automotive Show, the Denver Automobile Trades Association is planning to build before next spring a \$150,000 building for shows and association headquarters. Present plans call for a structure containing 80,000 to 100,000 sq. ft. for exhibit purposes, and the cost may go considerably beyond the \$150,000 which has been set as a minimum figure. A dozen members of the trades body have tentatively subscribed about \$65,000 toward the association and show building enterprise.

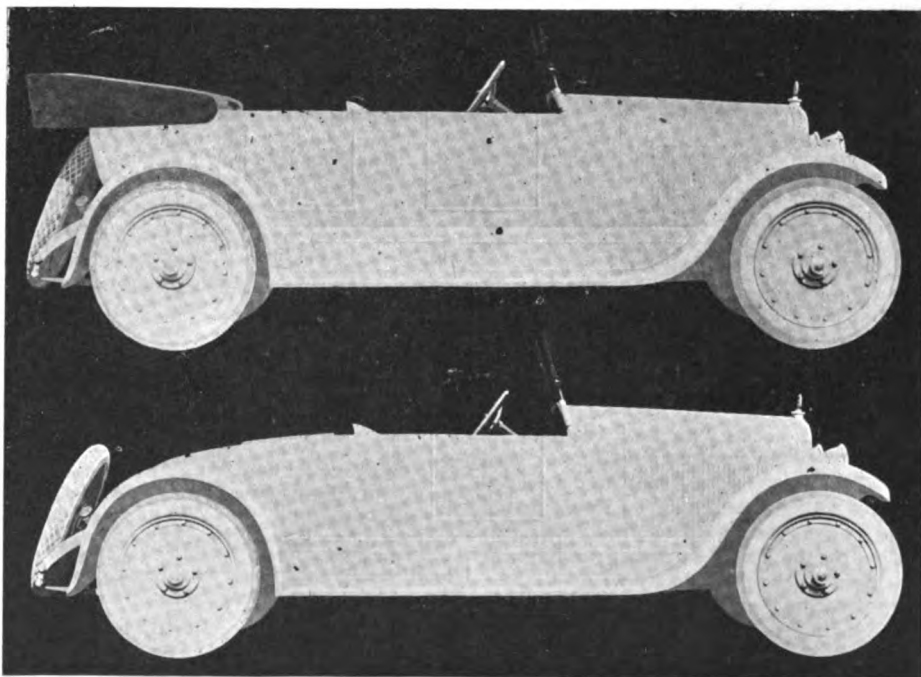


## Shaw Taxis Driven by Soldiers

**CHICAGO, April 26**—Returned soldiers and sailors who can drive cars are being given jobs by the Shaw Taxicab Co. Not only have the positions of the 400 employees who went into service been held open, but the company has found positions for 173 other discharged army and navy men. The company finds that returned soldiers make good drivers.

## Dozen More Trucks for Pennsylvania Mail

**WEST CHESTER, PA., April 26**—One dozen army trucks have been sent to Postmaster Rettew for use on the mail routes passing through here. There are now six such routes in full operation and more are being planned. The Government will build a large garage in the rear of the Post Office Building for the storage of the trucks, which now are being kept in private garages. Delivery lines now connect West Chester with Philadelphia, Lancaster, Oxford, Wilmington, Baltimore and New York and intermediate points.



Above is the new Silhouette Jordan model and below it the Playboy, which is a two-passenger roadster



## OMAHA MAN STARTS A MOTOR TRUCK BUREAU

### *Plans to Centralize Information as to Routes and Fleets and Establish Short-Haul*

OMAHA, April 28—The Firestone Ship-by-Truck Bureau, 2566 Farnam street, is the address of an enterprise which has gone into development of motor truck service in this territory with both hands and feet. Already it has stirred up a lot of talk, and concrete results are expected mighty shortly.

W. B. Alexander is manager of the Omaha branch of the Firestone corporation. His territory covers Nebraska, South Dakota, western Iowa, Wyoming and Colorado. He calls his venture "the establishment of a clearing house for all information regarding truck routes, shippers and schedules." He cheerfully assumes a labor which the Omaha Chamber of Commerce abandoned after trying out a return local exchange in South Omaha because it did not prove profitable to the agent. Alexander is sure the thing can be done. Anyway, he proposes to find out.

"What we want first," he says to truck owners, "is information regarding routes. Send in the description of your route, your drivers, what towns you make and what your schedules are. Get your shippers to write us of their needs, and tell them we want to know all their troubles. Get on the job right now. Two weeks hence we propose to issue an advertisement showing routes, rates and schedules, and we want to run this ad every month hereafter, revised with each issue to be up-to-date."

Alexander frankly admits he probably won't make any money out of the proposition, at least within a few years. But he predicts that within five years the railroads will have no 50-mile hauls left, as these will be handled by trucks.

The plan is to have the truck lines work both ways through the guidance of the ship-by-truck bureau. A local freight house is among the developments expected, with prepay arrangements through the truck drivers.

#### **Hold a Truck Demonstration**

PHILADELPHIA, April 26—Two hundred motor trucks, representing manufacturers and business houses, made a special "ship by motor truck" parade through the central part of the city as a demonstration in the campaign to that end. The cars ranged from fast delivery vehicles of half-ton capacity to seven-ton army motor trucks. The procession was headed by the Navy Yard band. Each of the cars was decorated with Victory loan posters, slogans, American flags and bunting in the national colors.

United States army, navy and marine corps transportation services were represented in the parade, which was in divisions, each manufacturer having a

separate section. Two large trucks of the Firestone Tire & Rubber Co. of Akron, O., just got in from Washington, participated.

### **William Hyslop**

TORONTO, April 28—*Special Telegram*—William Hyslop, president of Hyslop Bros., Ltd., died suddenly Saturday afternoon of acute influenza. Funeral services will be held tomorrow afternoon, from his late residence. Hyslop was one of the founders of one of Canada's oldest automotive trade houses. Bicycles were and are one of the principal departments. The company has also for years distributed the Cadillac over a large area, and is one of the Dominion's largest jobbers of automotive equipment.

## BIGGER ASSOCIATION IS NEW YORK'S PLAN

### *Will Take in Allied Tradesmen, Have Restaurant and Club Rooms and Enlarged Activities*

NEW YORK, April 28—The New York Automobile Dealers' Association, which was not very active or financially strong until it held the last New York show, now plans to extend its membership and do a lot of things it has longed to do for years.

It is considering altering the constitution and by-laws to admit other than dealers. The dealers will be first grade members, but, in addition, there will be several kinds of associate members, thus bringing the various elements of the whole trade into one organization.

A new home for the association has been secured at 1845 Broadway, above the Colt-Stratton Co.'s salesroom. Here two floors will be occupied with offices, club rooms and a restaurant. The trade has long felt the need for a gathering place of this kind.

Manager Charles A. Stewart, who has handled the organization's affairs for eight years, has resigned to engage in other activities. His successor has not yet been chosen.

#### **They Still Smoke**

PHILADELPHIA, April 26—The Philadelphia Automobile Accessories Business Association last night held an enjoyable smoker and vaudeville entertainment in the rooms of the Philadelphia Automobile Trade Association, North Broad and Callowhill Streets.

#### **Correction**

In the advertisement of the Kellogg Mfg. Co., Rochester, N. Y., in the March 12 issue of *Motor World* the price of the Kellogg grease and oil gun was quoted as \$2.50. The price is \$3.

## HOLD A TRUCK WEEK, SAYS MANAGER MOOCK

### *St. Louis Will Run Trucks Through Missouri for Five Days—Other Cities Too*

ST. LOUIS, April 28—St. Louis truck dealers are planning a truck week beginning June 2. On that day they hope to start a train of more than 100 trucks on a five day trip through Missouri. These trucks will be loaded with speakers (good road, truck, business and other brands) and alfalfa, wheat, drygoods, calves, pigs, cattle, milk cans and other things usually hauled on trucks or which the truck men think should be hauled on trucks but are not.

The suggestion for this move came to the Truck Dealers' Bureau of the St. Louis Automobile Manufacturers' and Dealers' Association through Harry G. Moock, business manager of the N. A. D. A. Moock's idea is national, but he proposed it to the St. Louisans to see how they would take to it. They jumped at the idea and after an enthusiastic meeting named a committee of which Frank Martin of the Martin Truck Co. is chairman. He is now canvassing the trade to see how many trucks will join. The advance prospect is excellent.

Saturday E. P. Peak of Kansas City, and H. M. Gonung, secretary of the H. A. Dougherty Motor Co. and of the Kansas City Truck Body Mfg. Co., of Kansas City, visited the N. A. D. A. offices. The project was placed before them. They are going home to "whoop it up."

Here is the N. A. D. A. view and why this was suggested. Moock and his associates have been putting a lot of time on the truck situation since the report of the War Department sales came up. They have excellent reasons to believe that this report is to-day the greatest evil in the truck world and is responsible for much hesitancy in business, so they looked about for a cure. The idea is for a "National Truck Day," but because there is so much difference in vital dates, etc., and because the season already is late, the "National Truck Day" will necessarily be celebrated on different days. June 2 will probably be the day in St. Louis, because this is about the last date on which to get to the farmers before harvest and about the earliest date for which the enterprise can be got under way.

This week Moock and Van of the N. A. D. A. will take this matter up with truck manufacturers and see if it is not possible for them to take the "National Truck Day" up in their national advertising.

The speakers carried by the St. Louis train, it is planned, will talk chiefly business and good roads. A part of the business talks will be on the price situation and they will carry everywhere the latest information on War Department trucks.



## What's What in Indianapolis

By John B. Orman

Business Manager of the Indianapolis Automobile Trade Association

INDIANAPOLIS, April 26—We are rather busy now on civic affairs, as we have the Victory Loan going, in which we are, of course, taking our part.

Then, we have our home coming celebration when Indiana soldiers return from over seas. This, we expect to be the biggest celebration ever held in Indiana. Our association has taken upon itself, in behalf of the Public Comforts Committee, to supply drinking water from stations established along the streets.

On May 2 we have our annual "Romp," which will be quite the biggest thing we have ever pulled off.

On May 29, we have Eddie Rickenbacker here to deliver a lecture before the Boy Scouts, which we are also boosting.

May 31, the Speedway races, and from June 9 to 15, we have the Shriners National Conclave. The writer is now serving on five committees, and a large number of our dealers are also serving on different committees.

There is not much to report in the way of changes in the trade here. First, the settlement recently made by the Secretary of State with the Auditor of State shows an enormous increase in the use of automobiles in Indiana this year as compared with the first three months of 1918. Automobile license fees collected for the first three months of this year total \$1,175,447, against \$839,621 last year, or an increase of \$335,953. All the state automobile license fees, this year, will be apportioned among the counties. The late legislature, however, provided that these fees hereafter will go into the State Highway Fund, beginning Jan. 1, 1920.

Two new distributing firms have opened up here since last week. They are:

The Greer-Nauenhahn Motor Car Co., which will handle the Holmes car, for the central part of Indiana.

The H. N. Dunbar Motor Co. is a new concern recently formed for the distribution of the Liberty. H. N. Dunbar, the head of the company, has been associated with the automobile business for the past eighteen years. For the last five years he has served in the capacity of branch manager of the Ford Motor Co. at Pittsburgh, Pa.

H. N. Eason, who has been associated with the Goodyear Tire & Rubber Co. at various periods with the company's branches, at Kansas City and St. Louis, has been named manager of the Goodyear Tire & Rubber Co. branch in this city, succeeding Eddie Oscars, who left the company to go into the tire manufacturing business here.

W. E. Steinhart, president of the Steinhart Motor Truck Co., announces the appointment of C. H. Tyler, formerly assistant to the president of the Chicago branch of the Overland company, as manager of the Steinhart Motor Truck Co. He will assume charge this week.

J. C. Ray, one of the best known truck salesmen in Indiana, who for several years has been connected with the truck department of the Fisher Auto Co., has become associated with the Martin Truck Co., distributors of the Stewart, and will look after Stewart sales in and around Indianapolis. The acquisition of Ray by the Martin company completes one of the best truck distributing organizations in the state.

Frank Wheeler, head of the Wheeler-Schebler Carburetor Co., has just announced plans for the building of a new hotel here, to be known as the "Wheeler." the construction to involve an expenditure of \$1,200,000. Work will begin at once, and the hotel will be completed by March 1, 1920.

Master Trucks of Indiana, distributor of Master trucks in Indiana, and of the Monroe passenger car in Central Indiana, has named W. H. Stanley as vice-president and manager of the company. Stanley comes to Indianapolis from the northern part of the state.

The automobile accessory jobbers of Indianapolis have hit on a very commendable plan of getting closer together in both a business and a social way, to talk trade matters over in a way that is sure to prove beneficial. They meet on the last Friday of every month at a luncheon. The luncheon is paid for in turn by one of the firms represented. There is no initiation, no dues, nothing but talk, food, and good fellowship and an argument as to which company is to be allowed the privilege of paying for the next lunch. The firms represented at the first lunch, were:

Gibson Co.  
Van Camp Hdwe. & Iron Co.  
Universal Accessories Co.  
Central Rubber & Supply Co.  
I. J. Cooper Rubber Co.  
H. T. Hearsey Co.  
The W. R. Wheeler Co.  
W. J. Holliday Co.

## Roads for Philadelphia

HARRISBURG, Pa., April 26—Governor Sproul has signed the bill enabling the state to issue the \$50,000,000 in bonds for the improvement of Pennsylvania's highways, authorized at the election last fall. The Governor is authorized to borrow the money as needed, the bonds to bear 4½ per cent interest and not to run more than thirty years. They are to be sold to the highest bidder, the proceeds to go into the state bond road fund.

## Twentieth Used Car Market Report Out

CHICAGO, April 29—The twentieth edition of the National Used Car Market Report has just been issued by the Chicago Automobile Trade Association. It shows "as is" sales from November 21, 1918, to March 21, 1919, and gives appraisal prices for the spring period. The following cars are no longer listed: Bergdoll, Garford, Luverne, Lyons-Knight, Pan-American, Pope-Hartford, Rambler, Stoddard-Dayton and Hupp-Yeats.

## DETROIT TO PREPARE OWN USED CAR DATA

*Will Compile Semi-monthly Report and Distribute It to Members of Association*

DETROIT, April 26—The Detroit Automobile Dealers Association will take a constructive step this week when an effort will be made to stabilize selling conditions in the local trade by issuance of a used car market report to be furnished to the association's members semi-monthly by which dealers will be able to appraise the true value of all used cars tendered them in exchange for re-sale.

A second reform also to be introduced is the compilation of list prices on all standard makes of new cars. To carry out these objects H. H. Shuart, who has acted as manager for the association's shows, has been made assistant secretary and treasurer of the association with a down-town office.

In the past Detroit dealers have been dependant upon the National Used Car Market Report as their means of judging used car values, but do not consider it as of sufficient local value.

Each dealer will keep a record of his used car transactions which will be gathered at the association office, averaged up and the figure sent out so that dealers with the average price as a guide can eliminate much of the present guess-work in their used-car departments.

## Racing Cars Arrive from Europe

PARIS, April 28 (Special Cable)—Official entry for the Indianapolis 500-mile sweepstakes on May 31 has been made for four 8-cylinder racing cars manufactured by the Bablot Co., Paris. The four drivers named are René Thomas, Albert Guyot, Louis Wagner and Bablot. The cars, having vertical cylinders, were built especially for Indianapolis conditions in 103 days, designed by Henry, designer of Peugeot cars. Drivers and cars sailed for New York on the Savoy on April 26.

NEW YORK, April 28—Louis Coatalen, managing director and chief engineer of the Sunbeam Co., England, arrived here this morning bringing with him the two racing Sunbeams which are to make their appearance at the Indianapolis track on May 31, driven by Dario Resta and Jean Chassagne. Coatalen expects to return to England as soon as possible after the race.

## Chevrolet Producing 700 a Day

DETROIT, April 26—The Chevrolet Motor Car Co. is manufacturing on a set schedule of 700 cars daily. Sales officials declare demand is far in excess of production.



## MASSACHUSETTS HAS USUAL MOTORPHOBIA

### *Would Pass Bills That Would Raise Fees, Slow Used Car Sales and Prevent Driving*

BOSTON, April 26—Massachusetts dealers and motorists are up in arms over three bills that are now being threshed out by the legislature. One bill calls for tripling the fees on motor vehicles, put in by Mayor Peters of Boston, and which brought out a lot of opposition before the committee. Yet it is stated that the committee is going to report the bill, or something carrying increased fees, for both cars and trucks. If so the committee is very apt to get a setback from the legislature because of the opposition developed already.

A second bill would require every motorist to be bonded before being allowed on the roads. A similar measure was killed last year and the year before. Under the bill the careful motorist who was bumped by a reckless driver might have his bond attached in a suit by the man at fault, and he would have to get another bond, in which case if that were impossible he would not be allowed on the road. It would mean pyramid bonding by the insurance company. Also, if a bonding or insurance company refused a man because of age, or women because they were afraid of the risks, it would put a lot of people off the highways. In other words the insurance and bonding companies, not the Highway Commission, would say who should drive the cars.

A third bill seeks to have dealers make a record every day of the cars they take in trade and send the report to the State House, to the Highway Commission and also to the local police. The used car dealers would have to hold their cars four days; the new car dealers could sell theirs by getting a permit from the police. But private owners could not sell their cars for four days, nor until they got a waiver from the police. This is supposed to check stealing, but it would not do anything of the kind. Motorists are fighting all three bills now.

The truck fee bill has not reached the compromise stage yet since the deadlock which developed as a result of the hearing.

#### Cleveland Club to Handle Insurance

CLEVELAND, April 28—A department for handling the automobile insurance of its members is the latest feature to be added by the Cleveland Automobile Club. Arrangements have been concluded with a group of companies for writing fire and theft and collision insurance at from 10 to 30 per cent less than the rates charged by the insurance conference companies. Within a short

time it is expected similar arrangements will be completed for writing liability and property damage. The Cleveland dealers are active in club affairs and Fred H. Caley is secretary for both club and trade.

The Cleveland club made a thorough study of the insurance feature as handled by clubs in other cities, including the inter-insurance exchange and the mutual plan. It was decided by the Cleveland officers that the best proposition which could be offered the members was straight-out insurance at cost in well-established companies.

An insurance department has been established in the Hollenden Hotel headquarters of the club, where the applications of club members will be accepted and the policy immediately delivered. No commissions of any kind are paid to the club, the entire saving effected going to the member. Under this provision, if it is found that even greater reductions in rates can be effected, still lower premiums will be fixed.

According to officials of the Cleveland club, it was more than just a desire to provide insurance for members at the best possible rate, which led to the club's establishment of an insurance department. There was an increasing demand for the club's taking up claims of members and adjusting cases growing out of traffic accidents. To afford full protection to members, instead of offering a certain degree of legal advice and assistance, it was decided that legitimate insurance with full coverage was the only completely satisfactory answer.

The Cleveland club now has a membership of more than 7000, and it is believed that the insurance department will be a big factor in doubling this by the end of the year.

#### Victory Loan Going Big

BOSTON, April 26—In one week the men handling the Victory Loan for the automobile, tire and accessory trade in the Boston district have secured pledges approximately of \$500,000, which is 25 per cent of their quota, and somewhat ahead of some of the other lines working for its success. They want to go over the top with at least \$2,000,000.

J. W. Maguire, of Pierce Arrow, is chairman of the committee. He has picked out for team workers the following: Zone 1, W. H. Hickey, of Goodrich tire, and Walter Billings, a financial man. Zone 2, F. A. Hinchcliffe, Jordan, and B. E. Ames, Buick. Zone 3, George B. Kimball, Hudson. Zone 4, L. B. Sanders Oakland, and E. H. Kidder, U. S. Tire. Zone 5, C. P. Rockwell, Nash. Zone 6, J. J. Harrington, Ford. Zone 7, J. T. Pace, Packard, and B. K. Hart, Dodge. Zone 8, W. L. Russell, Haynes, and George B. MacBride, Phenix. Zone 9, Frank Coe, accessory dealer. Maguire is giving much time to the work, and he has put several members of his executive staff at work on the loan under the direction of his secretary, W. S. Davis.

## NEBRASKA DROPS TWO HOT ONES ON DEALER

### *Can't Sell Tractors in Nebraska After July 18 Unless the State Says Machines Are O.K.*

OMAHA, April 28—Two bills passed by the session of the Nebraska legislature just closed have an important bearing on the sale of motor passenger cars, trucks and tractors in this state. It is believed that the general effect will be a tendency to centralize the business in the larger cities of the state.

House Roll No. 85 provides that no tractor shall be sold in Nebraska until a sample machine has been tested by three competent engineers of the state university at Lincoln, who shall report to the state railway commission. The commission will compare this report with the specifications and claims of the manufacturer or agent as set forth in advertisements or sales arguments, and shall deny permit for sale if these specifications or claims shall be found to be false in any way.

The ruling of the railway commission shall apply only to the particular make of machine under consideration, and not to the whole or other product of a company which manufactures other machines which do meet specifications and claims.

The commission is also given power to deny sales permit for any tractor on complaint of any two bona fide customers, properly substantiated, that an adequate service station, with full supply of parts, is not maintained within the state. The law becomes effective July 15.

The second bill, Senate File No. 86, declares the sale, trade or disposal of any automobile or tractor void unless the necessary supplies and repairs are carried at some point within the state, this measure being very similar to the first. It differs in voiding the sale after consummation, as against forbidding sale beforehand. This law is effective July 18.

#### Philadelphia "After" Loan

PHILADELPHIA, April 26—Industrial Group No. 3, comprising the motor car and allied lines, to date have raised \$529,500 in the Victory Loan drive. The group has announced its intention of exceeding its quota of \$4,000,000 by \$1,000,000 in the two weeks of the campaign.

Among the larger subscriptions from the motor car trade are the following: Ford Motor Co., \$80,000; Thornton-Fuller Co., \$20,000; Overland-Harper Co., \$20,000; White Co. and employees, \$20,750; Biglow-Wiley Co., \$15,000; Herbert Bros., \$11,000; Locomobile Co., \$10,000; G. M.-C. Truck Co., \$10,000; Maxwell-Chalmers Co., \$10,000; B. V. Hoffman, \$10,000; W. B. McCullough, \$10,000; A. I. Swinson, \$10,000; Thomas Martindale, \$10,000.



## Car Shortage Lowers K. C. Sales Figures

**10,000 Fewer Cars Bought So Far  
This Year—Dealers Un-  
able to Deliver**

KANSAS CITY, April 26—Kansas has bought about 10,000 fewer motor cars so far in 1919 than in the same period of 1918.

Only a part of this shortage in sales is due to dearth of cars, or the inability of a particular dealer to supply the car his customer wanted. There has been shortage of supply among dealers in certain cars; some distributors are reporting that in the past few weeks their sales have got ahead of their receipts of cars.

There is every prospect that during the next month Kansas will start to make up for that deficiency in motor car purchases.

For one thing, the roads will get better. This has been an exceptionally unfavorable winter and spring for motor car driving on Kansas roads. Roads have not been passable for long enough periods for dealers and salesmen to get out, or for the customers to feel justified in buying cars for immediate use. Farmers have had to spend every minute of good weather in their fields the past few weeks.

Dealers generally hope that the popular excuse for not buying a car—that maybe prices will go down July 1—will have been overcome by the middle or last of May; that the public will see clearly that prices can't go down soon.

By the middle of May the country will know whether the wheat crop is really going to turn out as well as it now promises. There should be a wonderful crop—at a guaranteed price. Despite the conservative advice of bankers, and the tendency of farmers to lay up a fund for next year, when wheat may not bring so much money to them, there is no doubt that Kansas farmers will have a great surplus to spend for transportation facilities.

Other farming factors will be pretty well established by the first of June—the

prospects for corn may be gaged fairly well. The effects of the Liberty Loan drive will be eradicated, it is hoped. People generally will know better whether they want to go ahead or hold themselves down.

Even the approaching period of large production does not seem to be alarming to Kansas dealers. Evidently there are many districts where sales of motor cars have not been pushed for 2 or 3 years.

Distributors are not taking the position, however, that the big business in Kansas is going to drop into the hands of the dealers. The Hudson-Brace Motor Co., for instance, has had its salesmen on the road—even though it cannot get enough cars to meet demand—urging dealers to keep their organizations in tiptop shape, to be ready for the period when there will be a large supply of motor cars on the market.

### New Dixie Flyer at \$1,365

LOUISVILLE, KY., April 26—The Kentucky Wagon Mfg. Co. has brought out a refined model of its Dixie Flyer, which is to sell for \$1,365 with either touring or roadster bodies. Among the improvements are the use of a slightly larger engine with force feed lubrication and a hot-spot manifold; fan driven from the generator shaft; larger universals, improved brake and clutch pedals; Bower roller bearings in all wheels, oil cups instead of grease cups. The external appearance of the car has been considerably improved through the use of a straight-line body with a square tube radiator.

The engine is a four-cylinder Herschell Spillman, driving through a Borg & Beck clutch to a Grant-Lees three-speed gear-set, and floating axle. The engine is equipped with a Dyneto two-unit electric lighting and starting system, with a Bendix gear. The ignition system is Connecticut. The wheelbase is 112 in. and tires are 32 x 4. Equipment includes an 8-day clock, Moto-Meter and the usual tools.

### New Goodyear Cleveland Office

CLEVELAND, April 26—The Goodyear Tire & Rubber Co. has moved its Cleveland branch from the Buick building on Nineteenth Street to the H. F. Neighbors building on Chester Avenue.

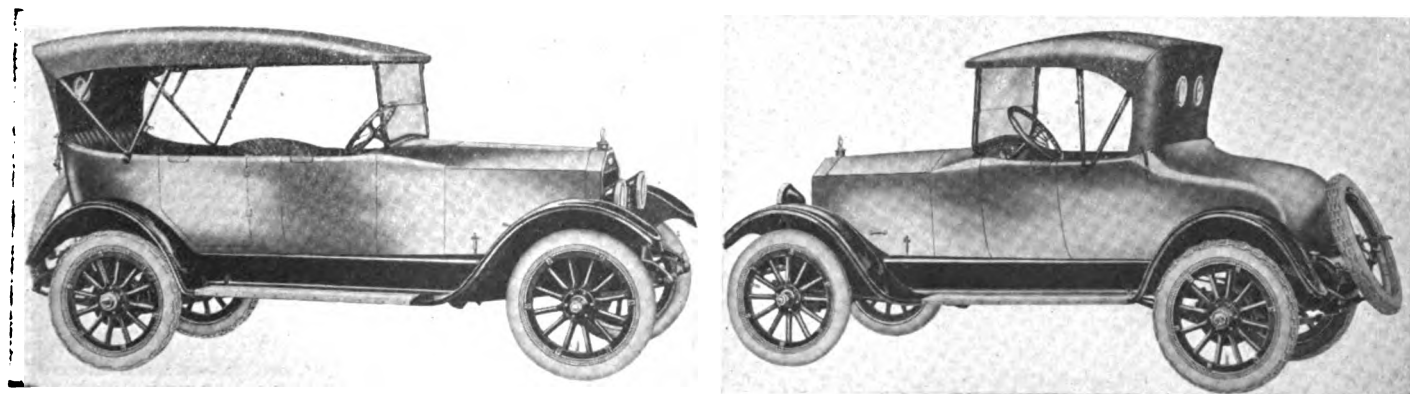
## CANADIAN TRADE SEES BRIGHT FUTURE AHEAD

**Montreal Show, Just Closed,  
Presages Good Season—  
Trucks in Demand**

MONTREAL, April 26—The motor show which closed its doors April 12 was the only show in the entire Dominion of Canada this year. This was under the direction and management of T. C. Kirby, who has managed the past five shows. The entire proceeds of the show go to the funds of the Children's Memorial Hospital, and it is the intention of the committee to purchase an automobile for the emergency cases from the proceeds. Vocal and instrumental concerts were given twice daily, with local vaudeville stunts.

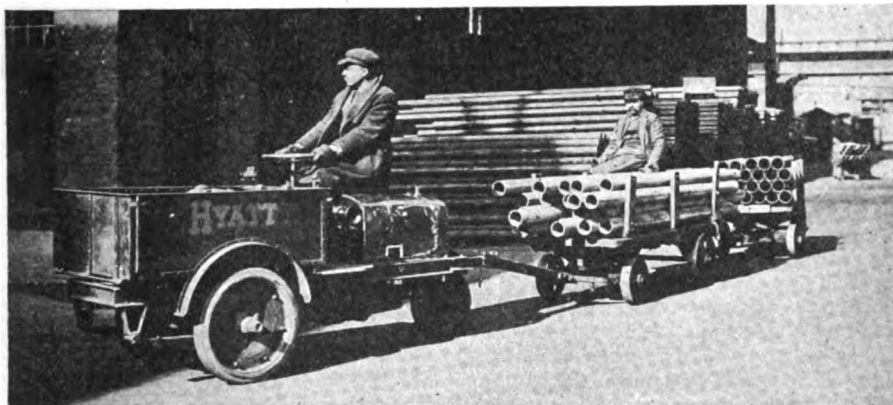
Indications are that the motor industry in Canada will be one of the first to show advantage in the wave of reactionary progress following the restricted war conditions. This was shown by the presence at the show of several men representing both Canadian and American capital, who have projects for the establishment of Canadian factories for the manufacture of new lines. One of these projects has to do with the acquisition of a large local munition plant to be turned into a factory for the manufacture of purely made-in-Canada cars and motors.

The men in charge of the various exhibits reported excellent results, particularly as regards trucks. One of the largest exhibits in the show was that occupied by the Cleveland Tractor Co., which stated considerable interest had been manifested in its product. A large delegation of the automobile and accessory dealers' section of Ontario came down in a special car under the direction of Secretary W. C. Miller. The show may be said to have been more of a truck show than otherwise, commercial vehicles dominating in numbers. On the whole the management and dealers are well satisfied with the show. The number of automobiles in the Province of Quebec is growing rapidly, according to statistics recently presented to the Quebec Legislature.



*The new Dixie Flyer touring and roadster models, which sell for \$1,365*





*Clark Tractor used as a tractor for industrial purposes*

## Combined Industrial Truck-Tractor

CHICAGO, April 26—A new type of combined industrial truck and tractor is being marketed by the Clark Tractor Co. It is a three-wheel, gasoline-driven vehicle for industrial purposes in and around factories and other large organizations. It is equipped with a 4-cylinder,  $3\frac{1}{2} \times 4\frac{1}{2}$  engine, dry-disk clutch, three-speed selective gearset, internal-gear drive, and may be fitted with either cargo or dump body or platform. The machine weighs 2050 lb. and has a capacity of  $1\frac{1}{2}$  tons. The wheelbase is 72 in.; tread,  $35\frac{1}{2}$  in., and the overall length, 112 in. It will operate at from  $\frac{1}{4}$  to 15 m.p.h. The selling price is \$1,135.

### Culto-Tractor Starts May 1

DETROIT, April 26—The Detroit Culto-Tractor Co., a new company incorporated at \$1,500,000 for the manufacture of a farm tractor to sell at \$755, has leased the Indian Village garage on Jefferson Avenue and is converting the place into a manufacturing plant. The company plans to be in production by May 1, turning out 25 machines daily. The company has orders for 3700 machines. The company will not go into the manufacturing end of the business heavily at first, but will confine its efforts to assembly, some machining and finishing work. The officers of the company are: President, J. J. Rowe; vice-president, H. M. Jerome; second vice-president, H. B. Kramer; secretary and treasurer, P. H. Kramer. S. M. Duffield is sales manager and S. R. Du Brie chief engineer.

### Braddon Motors Company Gets Factory

CHICAGO, April 26—The Braddon Motors Co., a new concern involving Chicago capital, has been organized to build a small four-cylinder car and has secured a factory building at Downer's Grove, Ill. The moving spirit in the organization is George J. Fogle, vice-president and general sales manager, formerly with the Locomobile Co. and more recently with the Maibohm Motors Co., Milwaukee. Other officers are F. J. Clark, president, and John Voiral, secretary-treasurer. The company is capitalized at \$50,000 and is completely financed.

Production at the rate of four cars per day will begin within the month. The car will be assembled from standard units, but painting and trimming will be done at the factory. The factory building is a two-story brick structure 50 x 100.

### Supplies Trained Accountants

PEORIA, April 26—The Kelly Auto Supply Co. here has decided to add a new department, that of supplying trained office help for garages. The company has opened a training school in the accounting and stockrooms, and both young men and women are being given instruction in the latest approved methods of garage accounting. There is a waiting list of firms desiring such help and the students are given positions as rapidly as they can be developed. The Kelly concern has found the unique department a profitable one.

### Schwartz Buys Emil Grossman Business

NEW YORK, April 26—L. M. Schwartz, formerly vice-president and sales manager of the Emil Grossman Mfg. Corp., has purchased the right, title and good will in that company and with it has acquired the trademark "Ever

Good" identified with the Grossman lines of bumpers, mirrors, fan belts, wiring sets, etc., and also the trademark "Red Rib," designating lines of ignition cable and lamp cord. Schwartz's activities commence immediately under the former trade name (The Emil Grossman Mfg. Corp.), and at the same address, Bush Terminal, Brooklyn, N. Y.

### Bloomington Show May 1, 2, 3

BLOOMINGTON, April 26—The annual automobile, truck and tractor show of the dealers of the Bloomington Automobile & Tractor Association will be given around the courthouse square on Thursday, Friday and Saturday, May 1, 2 and 3. It has been found impossible to secure a building large enough to hold all of the exhibits and the dealers were forced to the outdoor proposition. Entries for 120 vehicles have been received, the capacity of the available space. The trucks and tractors will be kept together on the west side of the square, while the automobiles will be on the three other sides. Merchants engaged in business in the blocks adjacent to the show have subscribed liberally toward the expense of decorations. This will be the first show held in 2 years, last year's being called off on account of the war.

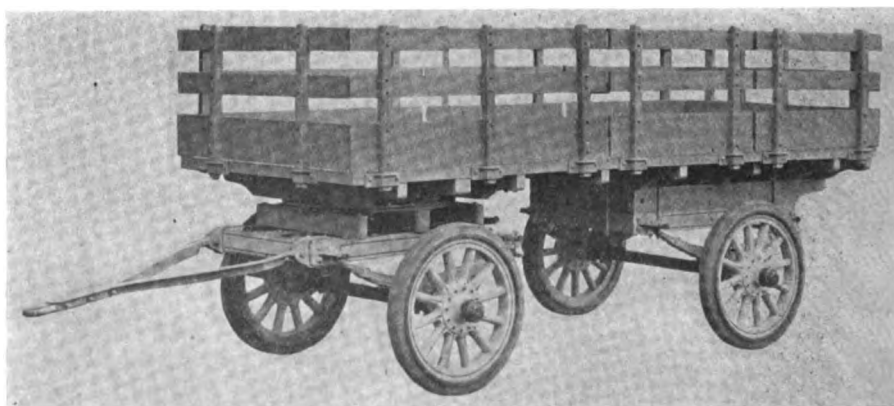
### National Tractor Becomes GO

CEDAR RAPIDS, April 26—The National Tractor Co. has changed the name of its product from National to GO and is bringing out a new machine similar to its older model, but equipped with a Waukesha  $4\frac{1}{2} \times 5\frac{1}{2}$  engine.

### Saginaw Dealer Drives Away His Cars

DETROIT, April 26—Leo Demmer of Demmer Bros. Co., Saginaw, Chalmers-Maxwell distributors in that territory, Sunday last drove away 26 new cars. The cars represented a part of the April allotment which the company has already sold. The distance from Detroit to Saginaw is 110 miles and in places the roads are none too good. They made the trip in 5 hours.

## Graham Adds Four-Wheel Trailer



EVANSVILLE, IND., April 26—Graham Brothers have placed on the market a 2-ton four-wheel trailer to sell at \$400. It is equipped with Hess axles, with the wheels mounted on Bock roller bearings.

Springs are semi-elliptic and wheels carry  $32 \times 3\frac{1}{2}$  pressed-on solid tires. The loading space is  $118 \times 59$  in.; side racks are 22 in. high. The three side and end sections are removable.



## Canada Adopts Regulations Governing Used Car Sales

TORONTO, April 26—The provincial government has passed the Ontario Motor League's amendment to the Motor Vehicles Act increasing the speed limit of the province in cities, towns and villages from a rate of 15 to 20 m.p.h. and in the country from a rate of 20 to 25 m.p.h. The amendment was only forced through committee in the dying hours of the session and in the face of hot rural hostility by dint of the indefatigable efforts of the league officials backed up by a deluge of telegrams from the 75 clubs in the league.

Other amendments follow:

All persons who buy, sell or wreck or otherwise deal in used motor vehicles shall keep a correct record of all motor vehicles bought, sold or wrecked and of such information as will enable such motor vehicles readily to be identified, and such record shall be produced for inspection whenever so required by authority of the Minister of Public Works and Highways.

No person shall buy, sell, wreck or otherwise deal with any motor vehicle whereof the serial number or similar identifying mark has been obliterated or defaced or is not readily recognizable.

## Los Angeles Wants Endurance Run

LOS ANGELES, April 26—Having successfully disposed of the show and the Santa Monica road race as subjects on the program of events for stimulating motor car interest, the Los Angeles Motor Car Dealers' Association is now contemplating an endurance run. But a true endurance run always means a terrific grind and severe strain on both cars and drivers. This the association does not desire, so may alter the plans in such a way that the test becomes one of driving rather than of car stability. If a fair plan can be devised it is probable that from thirty-five to fifty cars will be entered.

It has been suggested by the committee having the project in charge that old-time methods be revived. In the earlier days any sort of a contest awakened public interest and the people flocked in thousands to see the cars go by. It even has been proposed locally to undertake the revival of the Glidden tour, but inasmuch as that was a factory proposition there is little probability of the dealers undertaking it. They can have an event on a smaller scale, however, and that they intend to do.

## Crawford Heads K. C. Tractor Club

KANSAS CITY, April 26—At the annual meeting of the Kansas City Tractor Club these officers were elected for 1919: President, R. F. Crawford, manager of the Emerson-Brantingham Co.; vice-president, M. R. Voorhees, manager of the Advance-Rumely; secretary-treasurer and manager, Guy H. Hall; directors, J. A. Keating, manager of the J. P.

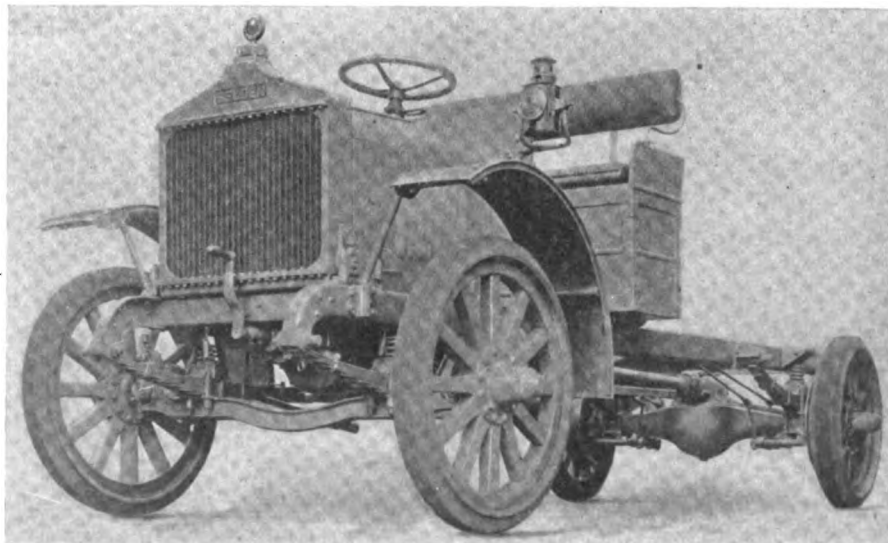


Robert L. Wagner of Seattle, who has been named one of the National Automobile Dealers' Associations' traveling field secretaries. He was formerly a dealer in Seattle and president of the Seattle Automobile Dealers' Association. His territory will be the Pacific northwest, with headquarters at 415 Railway Exchange Building.

Downes Motor Co.; R. W. Johnston, manager of the International Harvester Co., and L. T. Yount, manager of the Oliver Chilled Plow Co. The secretary's report showed that \$112,000 had been spent on the tractor show this winter.

## Allen Gets Columbus Plant

COLUMBUS, April 26—The Allen Motor Co. of Fostoria and Bucyrus, Ohio, will move to Columbus. The conclusion of negotiations last week mark the culmination of proceedings started several months ago between the Chamber of Commerce and the Allen Co. The company hopes to boost its production to 20,000 cars after it is located in its new Columbus plants. The factories formerly occupied by the Columbus Buggy Co. will be occupied by the Allen company. The Scioto Rubber Co. is to be absorbed in the deal.



Three-quarter front view of the new Selden special 1 1/2-ton worm-driven truck

## Bloomington Tractor Men Stage Big Demonstration

BLOOMINGTON, ILL., April 26—Unlike, perhaps, any other tractor demonstration yet arranged in Illinois was that on April 5 upon a 120-acre farm four miles northwest of Bloomington. It was arranged by the Bloomington Automobile and Tractor Association and was open only to members of that organization. Twelve firms entered, each exhibiting from two to six tractors.

The field was divided into twelve sections of ten acres each and the various dealers drew for space. At the end of each tract a sign of uniform shape was displayed, showing the name of the firm and the tractor, and a small tent for each served as an office where sales could be closed.

The day preceding the demonstration each firm was required to make one run with a disc and plow one furrow in order that the supervisor could see that every plow was set for a uniform depth of 6 in., and thus give the owner of the tract a satisfactory and uniform seed bed. Starting at 8 a.m., the 120-acre tract was all plowed by 5 p.m., and made ready for seeding. The demonstration went through without a hitch. So great was the success that it is desired to arrange another upon a more extensive scale later in the season, plowing a 500-acre tract in a day. This will probably be made a state affair, and an effort made to secure the entrance of every known make of tractor. A definite decision will be reached at the next meeting of the Bloomington association. By utilizing joint advertising, the expense of the demonstration was small, ranging around \$50 to each firm entering.

## English Austin Lists at \$2,475

BIRMINGHAM, ENGLAND, April 9—The prices of the Austin 20, one of England's post-war models which has been anticipated as one of the production jobs of the country, have been determined. The chassis lists at \$1,975, the touring car at \$2,475, the coupe at \$2,975 and landaulet at \$3,125.



## COMING EVENTS

### Passenger Car and Truck Shows

Bristol, Va.-Tenn. .... May 10-17 ..... Cars, Trucks, Tractors, Airplanes and accessories  
Bristol Chamber of Commerce. C. W. Roberts,  
Manager.

### Foreign Shows

Paris, France. .... Oct. 15 ..... Grand Palais—International Automobile Manufacturers' Congress.  
London, England. .... November ..... Olympia—International Automobile Manufacturers' Congress.

### Meetings

St. Louis, Mo. .... Apr. 28-May 1 ..... Convention, Chamber of Commerce of United States  
Washington, D. C. .... May ..... Pan-American Commercial Conference, Pan-American Union Bldg.  
Chicago, Ill. .... June 2 ..... National Gas Engine Assn., Hotel Sherman.  
Hot Springs, Va. .... June 2-6 ..... Convention, Automotive Equipment Assns., Homestead Hotel.  
Ottawa Beach, Mich. .... June 23-27 ..... Summer Meeting, S. A. E.  
Philadelphia, Pa. .... Sept. 22-25 ..... Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

### Exhibits

Venezuela, S. A. .... May 15-June 1 ..... National Exhibit of Venezuela

### Races

Uniontown, Pa. .... May 17 ..... probably 112½ miles.  
Indianapolis, Ind. .... May 31 ..... 500-Mile Sweepstakes, Indianapolis Speedway.  
\*Sheepshead Bay N. Y. .... June 14 ..... Speedway.  
Cincinnati, O. .... July 5 ..... Speedway.  
Uniontown, Pa. .... July 19 ..... Mid-Summer Meet. Speedway.  
Sheepshead Bay, N. Y. .... July 26 ..... Speedway.  
\*Middletown, N. Y. .... Aug. 15 ..... Dirt track event.  
Elgin, Ill. .... Aug. 22-23 ..... Road race.  
Sheepshead Bay, N. Y. .... Aug. 23 ..... Speedway.  
Uniontown, Pa. .... Sept. 1 ..... Speedway.  
Sheepshead Bay, N. Y. .... Sept. 20 ..... Speedway.  
\*Allentown, Pa. .... Sept. 27 ..... Dirt track event.  
Cincinnati, O. .... Oct. 1 ..... Speedway.  
\*Trenton, N. J. .... Oct. 4 ..... Dirt track event.  
\*Danbury, Conn. .... Oct. 11 ..... Dirt track event.  
\*Tentative dates.

### Tractor Demonstrations

Fresno, Cal. .... Apr. 29-May 1-4 ..... Central California Tractor and Implement Assn.  
Sacramento, Cal. .... May 6-12 ..... Sectional Tractor Demonstrations, Demonstration Field.  
Denver, Col. .... June 8-14 ..... Sectional Tractor Demonstrations.  
Wichita, Kan. .... July 14 ..... Automotive Committee of National Implement Assn.  
Aberdeen, S. D. .... August 18-22 ..... Sectional Tractor Demonstration.  
Ottawa, Ont., Canada. .... October ..... Inter-Provincial Plowing Match and Tractor Demonstration.

### Aeronautical Exhibition

Atlantic City, N. J. .... May 1-June 1 ..... Second Pan-American Aeronautic Convention and Exhibition.

### Trade Printed Matter

Pyramid Brush Booster, Nos. 1, 2, 3 and 4—These are leaflets, explaining in detail the design, manufacture and use of Pyramid brushes, and the third one

contains a chart giving a synopsis of all the trouble that might be looked for in the electrical systems. These leaflets are distributed free to dealers handling these brushes.—National Carbon Company, Cleveland, Ohio.



### HOMER MOTOR COMPANY

MAIN STREET AT THE BRIDGE  
LIVERY—ACCESSORIES—REPAIRING  
FIRESTONE AND GOODYEAR TIRES  
CAMBRIDGE, OHIO

HOMER CITY, PA.

### A Tale of Two Letterheads

Here are two letterheads. The one to the left has more life and action in it, and carries a story to the man that receives it. It is more in line with modern automobile merchandising than the one to the right. How are your letterheads? Is there room for improvement?

### Sioux Falls Has Brisk Week

SIOUX FALLS, S. D., April 26—The automobile and supply business is looking up here after a period of comparative slackness during the war. Increased building is an evidence. R. J. Huston will build a garage, 100 x 158, at Main avenue and Twelfth street, two stories and fireproof.

The Big Sioux Motor Co. has been incorporated to wholesale the Graham truck builder and to handle the entire output of Luverne farm trucks. The factory has been enlarged for increased production. T. E. Sheehan, Minneapolis, has opened the Sioux Falls Guaranteed Tire Co. for retreading and repairing tires.

The Dakota Monarch Tractor Co. is a new organization of which A. C. Michel is proprietor. Mr. Michel has been for nine years in the traction engine business. The company will distribute the Monarch and the Never-slip tractor.

R. S. Warnes, formerly Northwestern Telephone Exchange Co., has become partner in the Marvin Auto Co. The firm will be styled Marvin-Warnes Auto Co. and will handle the Dixie and the Empire. The John P. Blegg Co., which distributes the Hudson in South Dakota and parts of Minnesota, Iowa and Nebraska, has taken the Pierce-Arrow for the state.

### Buffalo to Elect May 5

BUFFALO, April 28—The annual meeting and election of officers of the Buffalo Automobile Dealers' Association will be held at the Iroquois Hotel, Buffalo, on Monday evening, May 5. There will be seven directors elected at this meeting.

### Chicago Branch for Distel Wheels

CHICAGO, April 28—A branch of the Detroit Pressed Steel Co. has been opened in Chicago for Distel wheels, under the management of Leroy A. Hillman. Hillman has been in civilian service with the Bureau of Aircraft Production and before that operated the Bearings Shop, interest in which he still retains.

### Traffic Truck Men to Gather

ST. LOUIS, April 28—The Traffic Motor Truck Corp. has invited 1000 automotive dealers to visit this city May 9 and 10 as guests of this corporation. The object is to have them visit the new plant of the corporation.



Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Acme	12-24	6,000	.....	W	4	Beaver	4 1/2x6	4 1/2x6	G or K	2	Farmer Boy	10-20	3,600	1350	W	4	Waukesha	4 1/2x6	4 1/2x6	G & K	2
Albion	6-12	2,100	.....	W	2	Ow	2 1/2x4	2 1/2x4	G or K	2	Farmer Horse	15-20	4,850	1485	W	4	Climax	4 1/2x6	4 1/2x6	G & K	3-4
Albion	10-18	4,800	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	2-3	Farmer	15-25	6,000	.....	W	4	Buda	4 1/2x6	4 1/2x6	G or K	3-4
Albion	18-30	5,300	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	25-35	16,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	14-28	4,800	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	25-35	19,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	15-30	4,975	\$1595	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	25-35	19,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-20	4,900	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	14-25	6,800	2500	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	16-30	5,400	1750	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	20-35	10,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	15-30	7,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	30-50	14,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	22-45	12,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	40-70	21,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	30-60	22,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-20	2,700	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	40-80	32,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	8-16	3,500	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-20	3,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-25	2,500	1275	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	20-40	4,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	30-60	24,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	8-10	850	365	W	2	Ow	1 1/2x4	1 1/2x4	G or K	2	Farmer	50-75	20,000	5000	W	4	Ow	4 1/2x6	4 1/2x6	G or K	10
Albion	6-10	3,050	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	20-35	6,800	2250	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	8-16	4,900	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-36	6,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	14-28	7,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-20	2,800	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	2
Albion	18-36	9,250	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	7,400	1395	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	25-50	12,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	9-16	4,000	1070	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	40-80	22,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-20	2,500	1375	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-25	4,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	25-45	13,900	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-22	4,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	50-75	25,000	1385	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	11-4	3,100	285	W	2	Ow	1 1/2x4	1 1/2x4	G or K	2	Farmer	15-30	5,500	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	12-20	3,500	1485	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-36	6,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-30	6,900	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-20	2,800	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	2
Albion	20-40	7,600	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	7,400	1395	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	12-22	4,900	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	9-16	4,000	1070	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	16-30	21,000	5500	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-20	2,500	1375	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	24-45	25,000	6500	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	25-45	13,900	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	12-24	5,000	1200	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	50-75	25,000	1385	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-36	4,000	1500	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	5,500	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	20-50	6,000	2000	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-36	6,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	10-18	3,500	1200	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	40-70	20,800	4500	W	4	Ow	4 1/2x6	4 1/2x6	G or K	12
Albion	15-27	5,700	1600	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	6-12	1,850	900	W	4	Ow	4 1/2x6	4 1/2x6	G or K	1
Albion	18-36	7,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	8-16	3,300	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	1
Albion	9-18	4,800	1200	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	8,700	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	2
Albion	13-20	3,300	1585	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	6-15	5,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	2
Albion	13-25	6,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	6,200	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	16-30	4,295	1750	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-35	5,000	2250	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	20-40	4,295	2200	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	40-70	20,800	4500	W	4	Ow	4 1/2x6	4 1/2x6	G or K	12
Albion	15-25	4,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	5,500	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-25	7,000	2000	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-35	5,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	15-27	5,300	1750	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	6,200	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	9-16	3,800	1075	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	5,500	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3
Albion	12-22	4,200	1375	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	16-30	5,000	2000	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	20-40	4,400	2450	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	100	.....	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	16
Albion	2-6	.....	.....	W	2	Ow	1 1/2x4	1 1/2x4	G or K	2	Farmer	30-32	2,885	1685	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-30	7,100	1835	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	3,800	1150	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	16-30	5,800	1545	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	4,000	1250	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	9-16	4,360	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-25	6,000	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-20	4,300	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-36	6,400	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-20	6,500	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	20-30	5,000	2000	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	20-35	9,700	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	20	6,000	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	40-65	23,000	.....	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-30	5,500	1200	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	6-10	3,200	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	16-27	3,200	1650	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	28-35	8,700	2000	W	4	Ow	4 1/2x6	4 1/2x6	G or K	4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	100	.....	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	16
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	30-32	2,885	1685	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	3,800	1150	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	12-24	4,000	1250	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	15-25	6,000	1985	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	18-36	6,400	.....	W	4	Ow	4 1/2x6	4 1/2x6	G or K	3-4
Albion	12-25	3,300	\$1385	W	4	Ow	2 1/2x4	2 1/2x4	G or K	3-4	Farmer	20-30	5,000</								



# Trucks

Name and Model	Tons Capacity	Price	Cylinder Bore	TIRES		Final Drive	Name and Model	Tons Capacity	Price	Cylinder Bore	TIRES		Final Drive	Name and Model	Tons Capacity	Price	Cylinder Bore	TIRES		Final Drive	
				F.	R.						F.	R.						F.	R.		
A & B	3T	2	4-3 1/2	48x34	36x27	W	Concord	A	1 1/2	2550	4-3 1/2	36x27	36x27	W	Garford	708	2	3300	4-4 1/2	36x27	W
A & B	5T	3	4-3 1/2	48x34	36x27	W	Concord	B	2 1/2	3000	4-4 1/2	36x27	36x27	W	Garford	77C	3 1/2	4300	4-4 1/2	36x27	W
Acason	R	1	2150	4-3 1/2	36x27	W	Concord	11	4	900	4-3 1/2	31x4	31x4	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	H	1	2150	4-3 1/2	36x27	W	Concord	20	1	1850	4-3 1/2	31x4	31x4	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	H	2	3150	4-3 1/2	36x27	W	Concord	20	1	1850	4-3 1/2	31x4	31x4	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	L	3	3150	4-3 1/2	36x27	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford	68	5	4000	4-1 1/2	36x27	C
Acason	M	5	5150	4-4 1/2	40x60	W	Concord	30	2	2550	4-3 1/2	36x27	36x27	solid	Garford						



Name and Model	Tons Capacity	Price	Cylinders	Fuel Grade	TIMES		Final Drive
					F.	R.	
Back	2	3000	4-425		36x4	36x4	C
Back	2	3000	4-427		36x4	36x4	C
Back	3	4600	4-5x7		36x4	40x4	C
Back	4	5250	4-5x8		36x7	40x6	C
Back	4	5500	4-5x8		36x7	40x7	C
Back	7	6100	4-425		36x4	40x4	C
Back	7	4000	4-5x8		36x5	40x5	C
Back	11	6250	4-5x8		36x7	40x6	C
Back	16	5500	4-5x8		36x7	40x7	C
family	30	2000	4-37x5		36x4	36x5	W
family	40	2350	4-37x5		36x4	36x6	W
family	50	2800	4-425		36x4	40x7	W
Master	B	1800	4-41x6		36x6	40x6	W
Master	J	1800	4-41x6		34x5	34x5	W
Master	JW	1900	4-42x5		34x5	34x5	W
Master	M	2350	4-42x5		34x4	36x7	W
Master	O	2400	4-42x5		34x4	36x7	W
Master	W	2500	4-42x5		34x4	36x7	W
Master	W	2600	4-42x5		36x5	40x5	W
Master	W	3800	4-42x5		34x4	36x4	W
Master	T	1105	4-37x5		36x4	34x4	W
Master	W	1105	4-37x5		32x3	32x4	W
Master	W	1800	4-37x5		34x3	34x5	W
Master	H	2475	4-37x5		36x5	36x5	W
Master	D	2950	4-42x5		36x4	36x6*	W
Master	G	3880	4-42x5		36x5	36x5	W
Master	J	4950	4-42x5		36x6	40x6	W
Master	J	2650	4-42x5		36x3	36x3	W
Master	19-B	3400	4-42x5		36x4	36x5	W
Master	19-C	2400	4-42x5		36x4	36x7	W
Master	19-G	4375	4-42x5		36x5	40x6	W
Master	19-G	4725	4-42x5		36x6	40x6	W
Master	20	2325	4-42x5		36x4	36x6	W
Master	2018	1650	4-37x5		34x3	34x4	I
Master	4017	3250	4-42x5		36x5	36x5	I
Master	3018	2175	4-37x5		34x4	34x6	I
Master	F1	3000	4-37x5		36x3	36x5	W
Master	F2	2775	4-42x5		36x4	36x7	W
Master	F3	3750	4-42x5		36x5	40x6	W
Master	F5	4750	4-42x5		36x6	40x6	W
Master	F5	3950	4-42x5		36x5	36x5	W
Master	H	2800	4-42x5		36x4	36x6	W
Master	D	3200	4-42x5		36x4	36x7	W
Master	B	1500	4-37x5		35x5	35x7	W
Master	E	2400	4-42x5		36x4	36x7	W
Master	NW	3100	4-42x5		36x4	36x7	W
Master	NW	3950	4-42x5		36x5	36x5	W
Master	M	905	4-37x5		33x4	33x4	B
Master	11	2250	4-42x5		34x3	34x5	W
Master	2-E	3400	4-42x5		36x4	36x6	W
Master	3-E	4100	4-42x5		36x5	36x6	W
Master	4-E	4450	4-42x5		36x5	36x6	W
Master	5-E	5150	4-42x5		36x6	40x6	W
Master	6-E	5400	4-42x5		36x6	40x7	W
Master	7	2950	4-42x5		36x4	36x7	W
Master	34	3950	4-42x5		36x5	36x5	W
Master	34x3	1695	4-37x5		34x3	34x4	W
Master	34x4	2595	4-42x5		36x3	36x4	W
Master	34x5	1195	4-37x5		32x3	32x4	I
Master	A	1395	4-37x5		32x3	32x4	I
Master	E	2350	4-42x5		34x4	34x6	W
Master	2	3150	4-37x5		24x4	24x6	W
Master	2	3150	4-37x5		24x4	24x6	W

## MERCHANDISING SPECIFICATIONS

THE tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.

Wolverine . . . . . **F 1†** 2250 4-3½x3



# Passenger Cars

Model		Motor		Ignition		Starting		WB		Time		2-		5-		7-		Starting		WB		Time		Price		Sedan	
Model		Motor		Ignition		Starting		WB		Time		2-		5-		7-		Starting		WB		Time		Price		Sedan	
FRANKLIN		6-3124	A-Kent	Dyneto	115	32x4	SS	\$2400	\$2450	1240	1645	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
GRANT		6-3	24	Remy	114	32x4	SS	1120	1120	...	1645	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HARRISON		6-3124	A-Kent	Remy	106	30x4	SS	1005	905	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HAYNES		6-3125	Remy	L-N	127	34x4	SS	12485	...	2485	3350	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HOLLIER		6-3125	Delco	L-N	127	34x4	SS	12485	...	2485	3350	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HOLMES		6-3124	Remy	Spidol	114	32x4	SS	1785	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HUDSON		6-3141	Esseman	Dyneto	126	34x4	SS	2000	3000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
HUPMOBILE		6-3125	Delco	Delco	125	32x4	SS	2200	3000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
JONES		6-3124	A-Kent	Webb	112	32x4	SS	1235	1235	...	2135	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
JORDAN		6-3125	Remy	Webb	126	34x4	SS	2100	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
KING		6-3125	Delco	Bijur	127	32x4	SS	12475	2475	3000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
KIBBEL KAR		6-3125	A-Kent	Bijur	120	34x4	SS	2500	2500	2100	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
KLYNE KAR		6-3124	Conn	Remy	124	32x4	SS	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
LEXINGTON		6-3124	Conn	Webb	121	32x4	SS	1865	1865	1865	2500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
LIBERTY		6-3124	Conn	Webb	122	34x4	SS	1785	1785	2750	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
LOCOMOBILE		6-3124	A-Kent	Wagner	116	32x4	SS	1670	1170	1670	2640	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MADISON		6-3125	Berling	Webb	120	32x5	QD	15700	5000	5500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MADISON		6-3125	Berling	Webb	124	32x5	QD	16700	6000	6000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MAIDHEIM		6-3125	Remy	Remy	115	32x4	SS	1650	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MARMON		6-3124	A-Kent	Wagner	116	32x4	SS	1500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MAXWELL		6-3125	Boech	Bijur	126	32x4	QD	12800	3000	3500	2750	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MCCABLAN		6-3124	A-Kent	Simms	109	30x24	C	805	805	...	1565	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MERCER		6-3125	Boech	Webb	126	32x5	QD	4900	14500	4900	5600	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MITCHELL		6-3125	Berling	Webb	123	32x4	QD	4850	14500	4500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MOLINE-KNIGHT		6-3125	Remy	Remy	120	34x4	SS	11275	1275	...	3175	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MONITOR		6-3125	Remy	Remy	127	24x4	SS	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MOON		6-3125	Remy	Remy	120	34x4	SS	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
MURRAY		6-3125	Conn	A-Lite	118	24x4	SS	12000	3000	3000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
NASH		6-3125	Delco	Delco	126	32x4	SS	12500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
NATIONAL		6-3125	Delco	Webb	126	34x4	SS	2500	3000	2000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
NELSON		6-3125	Delco	Delco	127	34x4	SS	11400	1400	1500	2250	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
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OAKLAND		6-3125	Delco	Webb	126	34x4	QDR	12450	12450	2400	3120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
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OAKLAND		6-																									

ABBREVIATIONS—"A.Kent" Atwater Kent, "A-Lite" Auto-Lite, "Cans" Canoeport, "G & D" Gray & Davis, "Eisma" Eismann, "L.N" Lees-Neville, "N.R." North-East, "W. Lard." Ward Leonard "Wetp" Westinghouse "88" Straight Slide, "QD" Quick Detachable, "C" Clicker, "QDR" Quick Detachable Reversible. NOTE—Shells mean that the rear view are 80% and the front are smaller.



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 6

PUBLISHED WEEKLY (AT 239 WEST 39th STREET  
NEW YORK, MAY 7, 1919

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Three dollars a year



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U. S. BALL BEARING MFG. CO. (Conrad Patent Licensee) CHICAGO, ILL., U. S. A.



## Efficiency at the Belt

At the belt also, the "Bates Steel Mule" exceeds its rating.

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In the photograph, taken on a Minnesota farm, the "Mule" is filling an 18 x 42 silo, with an 18-inch Ensilage Cutter. The owner writes that the tractor filled this silo in 10 hours. On the same farm the "Steel Mule" plowed 70 acres in 64 hours, plowing at a depth of 7 inches. Kerosene consumption averaged  $1\frac{1}{2}$  gallons per acre.

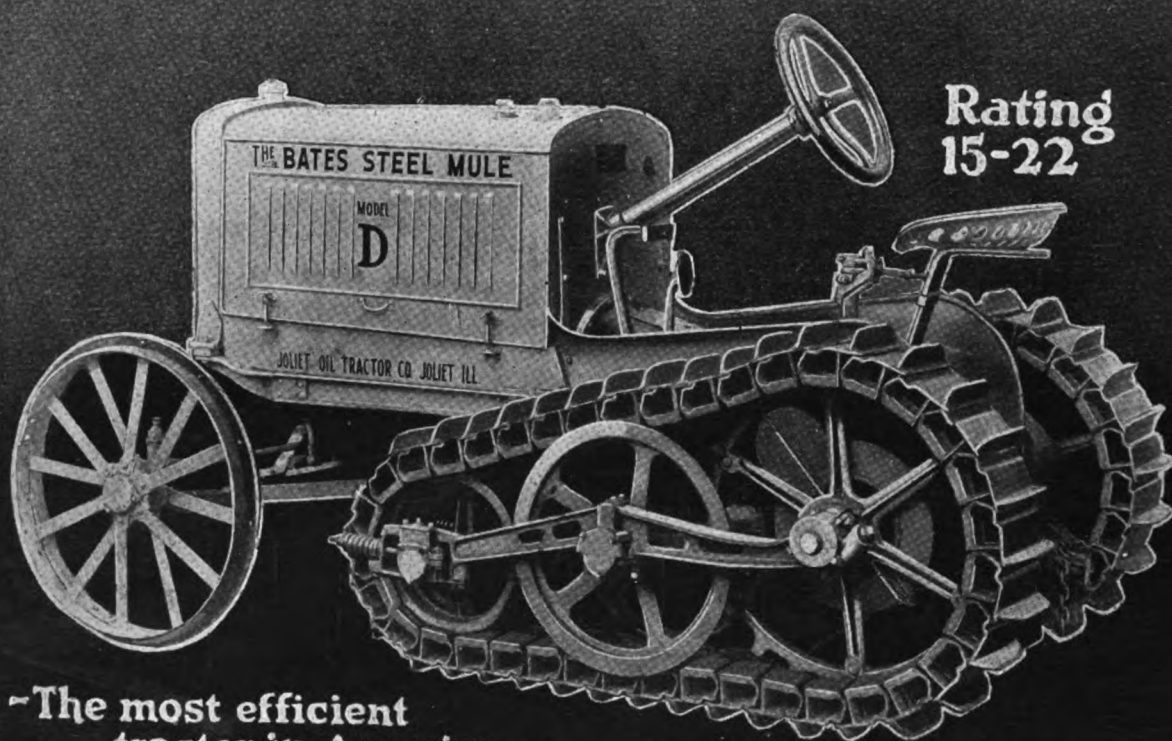
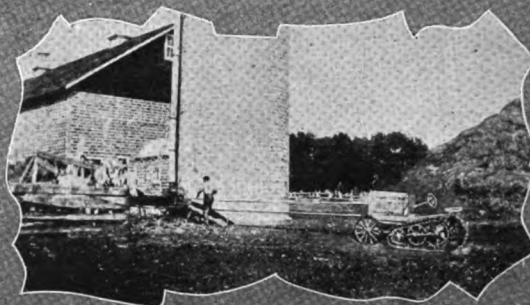
*We are still prepared to assign good territories to a few agents who want to sell a really high-class tractor. It is advisable to write to us before someone else does, because these arrangements usually turn out to be permanent.*

**BATES MACHINE AND TRACTOR CO.**

*Successors to Joliet Oil Tractor Co.*

*Established 1883*

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15-22**

**~The most efficient  
tractor in America~**



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

239 West 39th St., New York City. 'Phone Bryant 8760  
PUBLISHED EVERY WEDNESDAY BY

## The Class Journal Co.

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## Editorial Contents

How Automotive Manufacturers Are Handling the Tax .....	8
How to Make Money Selling Cars.....	15
If We Believed in Signs.....	16
I'm Not Ready to Buy Yet.....	17
The Law .....	18
The Flat Rate Plan.....	19
Save Money in Ford Repairing.....	23
Scientific Construction .....	24
Editorial Observation .....	26
Letters from Readers .....	27
Best Dodge Maintenance Methods.....	29
Shooting Troubles .....	32
Automotive Equipment .....	33
Repairshop Shortcuts .....	34
Retail News .....	36
New Mitchell Victory Model.....	38
Chicago Dines Rickenbacker .....	41
Specifications .....	49
Coming Events .....	48
Regular News Department.....	42

Advertisers Index on Pages 168-169



# "NORMA" PRECISION BALL BEARINGS

(PATENTED)

Out of after-the-war conditions, some words are emerging with new and trenchant meanings — among them, "value" and "service" and "price." American machine builders and buyers know today as never before, that value must be measured by service, not by price. Any other standard is a false one, sure to lead to disappointment.

The cars, trucks, tractors and power boats that today are commanding the market on service rather than on price carry **"NORMA"** equipped magnetos and lighting generators. Which simply confirms the statement repeatedly made in this space that **"NORMA"** Bearings are an identifying feature of high-duty, large-service automotive units.

**Be SURE—See That Your Electrical Apparatus Is "NORMA" Equipped**

**THE NORMA COMPANY OF AMERICA**

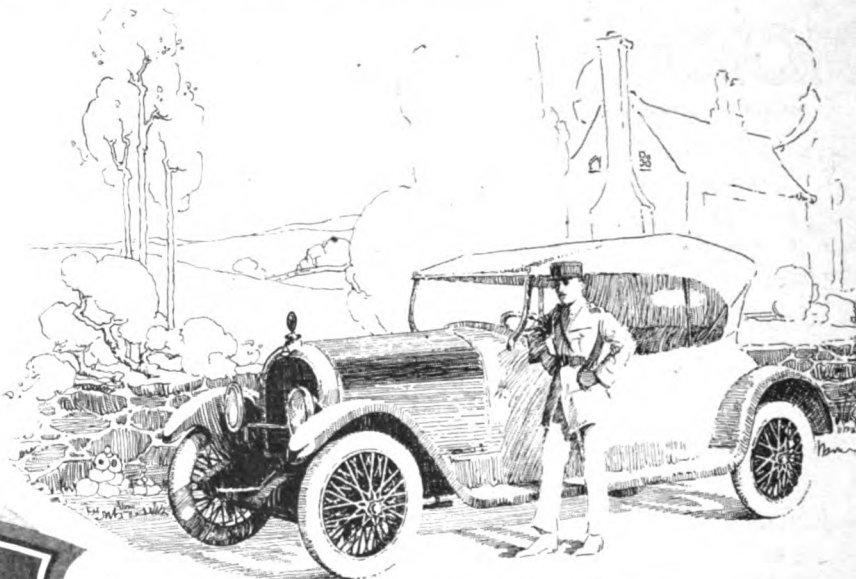
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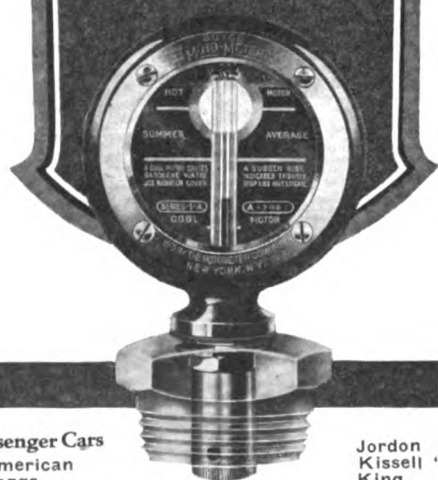






DRAWN FOR BOYCE MOTO-METER BY GENE WALKER

WHENEVER  
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CAR TRUCK  
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Jordon  
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Murray  
Nash Big Six  
Olympian  
Owen-Magnetic

Packard  
Pandolfo  
Peerless  
Peugeot  
Premier  
Roamer  
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Vellie  
Westcott  
White  
Willys "6" & "8"  
Wolverine Speedway  
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Ahrens-Fox Fire  
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(pumpers)  
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Rock Falls  
Sayers Scovill  
Seagrave  
Signal  
Victor  
White Fire Trucks

### Tractors

American  
Fageol  
Interstate  
White



# The Promise

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On October 4, 1900, the first issue of Motor World was published. It was a "book" of twenty pages.

In its blushing bow to the then very limited motoring trade the editorial helmsman said, in part:

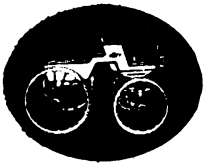
*"Its editors and publishers are no strangers to journalism. It will be their effort to publish a journal that will be a credit to themselves and to the world within the world that it-stands for—a journal that will be free, fair, readable and 'newsy,' and one that will be steered as far from the ruts as effort can keep it."*

To you "old timers" who have been thru the varying stages of development of the automobile industry, and to you who have had opportunity to watch the growth of Motor World since its maiden issue on October 4, 1900, we ask: Has our objective of "a journal that will be free, fair, readable and 'newsy,' and one that will be steered as far from the ruts as effort can keep it" been realized?

*Is the Promise Being Fulfilled?*



# Selden Motor Trucks



1877-1919

The first gasoline motor propelled road wagon was a SELDEN. The present types of SELDEN TRUCKS are the result of years of continuous experiment, observation and experience in manufacture since the day of their inception in 1877.

The value of the Selden Dealer Franchise is well expressed by the character of Selden Dealers. Some of the largest and highest rated Distributors of Motor Trucks in the United States are SELDEN Dealers.

## ROCHESTER MOTORS CO.

SPOKANE, WASH.

*for instance*

### SELDEN TRUCK SALES COMPANY

ROCHESTER, N. Y., U. S. A.





## DEALERS, JOBBERS AND GARAGEMEN

**No. 6**

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# How Automotive Equipment Manufacturers *are* Handling the Tax

---

Some Absorb It and Raise the Price

Some Absorb It Without a Price Raise

Some Add It to the Invoice as a Tax

Sentiment Among the Jobbers Is for Including the  
Tax in the List, with a Price Raise if Necessary

---

**T**HE manufacturer has two problems to meet in handling the tax: One is to see that the Government gets what is coming to it. The other problem is to effect the least disturbance of trade.

When the tax was first put on there seemed to be a general tendency to add it as a 5 per cent tax to each invoice, but this meant that each jobber was paying 5 per cent more for his goods and, therefore, had to add the same amount in passing the goods along to the dealer.

The law, however, states that not more than the amount of the tax must be added as tax, which meant that the jobber could not add, as tax, 5 per cent of the amount he charged the dealer for the goods. Wherefore, if he added 5 per cent of the amount he had paid the manufacturer he was disclosing to the dealer the price he paid for the goods and was thereby revealing his gross profit.

The jobbers were in a quandary on this, and various protests were made to the manufacturers, the jobbers requesting that the manufacturers absorb the tax, and, if necessary, raise their list price to include this amount. This would make it possible for the sale of goods to be handled as in normal times, with the only handling of

the tax to be done by the manufacturer.

The manufacturers all gave consideration to this request. Some of them found that raw materials were declining and that it would have been possible to reduce prices had not the tax been added. In such cases as these manufacturers frequently absorbed the tax and made no change in price.

In cases where materials did not decline and the margin was not sufficient to permit absorption of the tax, the manufacturers frequently absorbed the tax and adjusted their prices upward to provide for the amount they must pay the Government. Elsewhere in this story attention is called to the

fact that a raise of 5 per cent in the price to the jobber gives the manufacturer less than he got before. To pay a tax of 5 per cent on a raise of about the same amount it is 5.27 per cent that must be added to have things come out as before.

Other manufacturers make goods which are only partly taxable. Some of their goods are essentially motor car goods and are therefore taxable, whereas part of the line is general and not taxable. In this case the custom generally is to add the tax to the invoice.

Still other manufacturers have not seen their way clear to absorb the tax and are, for various reasons, adding the tax as a tax to the invoice. Some of these are still investigating, and a few have plans under way for changing over to some tax-absorption basis.

The comments of manufacturers on the tax question are printed on following pages. In a table herewith are summarized the methods of more than 80 manufacturers. Opposite each name is a number. Over each statement of policy on these pages is the same name and number, so that further information as to any manufacturer's plan, as set forth in the table, may be found by locating the numbered paragraph explaining his policy.

## FINDING OUT WHAT

**W**HEN the need for applying the new tax caused more or less disturbance in the trade, Motor World sent a questionnaire to automotive equipment manufacturers, using as a list those who are affiliated with the Automotive Equipment Association. The response was gratifying. Between 80 and 100 replies were received promptly, and the results are set forth in the story on these pages. The manufacturers invariably gave their reasons for their policies, which are printed on these pages under the names of the manufacturers. In the letter these questions were asked:

- 1.—Are you absorbing the tax with no change in price? If so, do you plan to change the price later?
- 2.—Are you raising the price to include the tax?
- 3.—Or, are you adding the tax, as tax, to each invoice?

Please give your reasons for the manner in which you handle the tax.



# Reasons Why

## Different Manufacturers Have Different Plans for Handling the War Tax on Automotive Equipment

### 1—Edward A. Cassidy Co.—

The following of the factories whose sales we control—The G. Piel Co., F. W. Mann Co., Corning Glass Works, Rajah Auto Supply Co., and West Side Foundry Co.—determined prior to the time this tax became effective on February 25 that the only practical method of handling the tax would be to add the same as a separate item on each invoice, figuring the tax on the net extension before the cash discount is deducted. This method has been in effect since that time. However, it seems that the consensus of opinion of the jobbers throughout the country was against this method of handling the tax, and consequently the Rajah Auto Supply Co., The G. Piel Co., and F. W. Mann Co. have revised their selling schedule to the jobber and the dealer, so that the price includes the tax, and this method will be in effect from now on. The West Side Foundry Co. and the Corning Glass Works have decided to absorb the tax in its entirety, making no change in their selling schedule whatever. The Eccolene Co. and the Acheson Graphite Co. inform us that their products are not subject to the tax, so that there will be no occasion for them to make any change whatever.—G. B. Gorman, secretary Edward A. Cassidy Co.

### 2—The Allen Auto Specialty Co.—

Half of our time lately has been spent in trying to straighten this matter out with our different customers. Some want us to handle it one way and some want us to handle it another way. Most of our customers, however,

are quite satisfied with the way we have decided to handle it, which is by reducing our cash discount from 5% to 2% and absorbing the tax. This practically amounts to an increase of price to our dealers and jobbers, amounting to 3%, but no change in the retail prices. We, of course, lose 2% of our wholesale prices, but we believe our method will save our customers an endless amount of labor and obviate the necessity, not only for ourselves, but our customers, of exposing our wholesale prices. The Automotive Equipment Association has recommended the absorption of the tax. In order to satisfy everyone, we would very much like to see a particular plan adopted by all manufacturers. We believe the very best way is for the manufacturer to absorb the tax by either raising his list prices or standing the extra expense himself.—The Allen Auto Specialty Co.; W. J. Allen, President.

### 3—Atwater Kent Mfg. Works.—

We are showing this as a separate item on each invoice, without increase in list prices or discounts. Some of our product is sold for truck and tractor use, and is in such instances non-taxable. The same articles are sometimes sold for passenger car use and are then taxable. Hence we have not increased our list prices. It is our understanding that more than 75% of the accessory manufacturers throughout the country are showing the tax, as tax, on each invoice. We favor the plan proposed by the M. & A. M. A., whereby a flat discount of, say 20% or 25%, would be allowed dealers and

## How They're Doing It

A table on pages 10 and 11 shows in brief how each one of 82 manufacturers is handling the war tax.

On accompanying pages are letters from these 82 manufacturers giving in detail their reasons for their plans.

Numbers connect the table and the story. For example, in the table No. 32 tells briefly how Gray & Davis is handling the tax. Paragraph No. 32 explains the matter in detail.

43, or 52 per cent, are absorbing the tax.

31, or 38 per cent, are not.

8 are not taxable or are undecided.

26, or 35 per cent, are raising the price.

82, or 59 per cent, are not.

31, or 38 per cent, are adding the tax to the invoice.

45, or 55 per cent, are not.

jobbers alike, with a special extra commission to jobbers for their "distributive services," sufficient to bring the jobber net proceeds up to the present jobber discount basis.—Atwater Kent Mfg. Works; H. W. Taylor.

### 4—The Au-to Compressor Co.—

We are at the present time preparing a jobbers' price sheet in which we are raising the price to include the tax.—The Au-to Compressor Co.—J. I. Griffiths, sales manager.

### 5—Adamson Mfg. Co.—

We have not as yet determined on a definite policy. We have been unable to determine fully if a tax applies to our line. Most of our jobbing clients are of the opinion that our vulcanizer is properly a tool, in which case the excise tax would not apply. We are investigating through the bureau at Washington and of course will be governed by their final decision as to whether or not the tax is applicable.—Adamson Mfg. Co.; J. F. Stoddard.

### 6—American Ever Ready Works.—

We have not raised the price of our storage batteries to include the excise tax, but we are adding the 5% tax to the net amount of our invoices.—American Ever Ready Works; H. B. Ramey, sales manager, Storage Battery Division.

### 7—Apco Mfg. Co.—

We are absorbing it and in almost every case have raised our prices in order to take care of this item. We agree with the majority of jobbers that it is good business to quote flat prices, raising the price if necessary in order to absorb the tax, and this is exactly the stand that we have taken.—Apco Mfg. Co.; Thomas F. Wilson.

### 8—American Electric Co.—

This matter has been thoroughly thrashed out at the meetings of the Automotive Equipment Manufacturers here in Chicago. We have sent out several hundreds of letters and received almost three hundred replies, the result of which show that 65% of the manufacturers of automobile accessories are applying the tax as a separate item on the bottom of the invoice and the other 35% of the manufacturers are handling the application of the tax in various ways. Some absorb and pay for it out of their pockets with an excuse that they were going to reduce their prices anyway and instead of doing so they merely absorb the tax. There are many manufacturers of automobile accessories

to whom the tax does not apply, apparently such as the makers of bolts, tools, greases, soaps, enamels, chemicals, etc. A few of the manufacturers have raised their lists and in this way take care of the tax. There are many applications in trying to raise the prices to cover the tax, with which the manufacturers are already familiar, as will be readily apparent on a complete and fair investigation by you.—American Electric Co.; L. G. LeBourveau, secretary.

### 9—Advance Felt Specialty & Cutting Co.—

We are handling it the way it should be, i. e., adding it on to each invoice as a tax, and not subject to cash discount. This is the way the whole proposition is supposed to be handled.—Advance Felt Specialty & Cutting Co.; S. Manning, president.

### 10—Brunner Mfg. Co.—

Our product is not subject to the excise tax and we are therefore not in a position to give you the desired information.—Brunner Mfg. Co.; J. H. Mehan, sales manager.

### 11—Brown Spring Oiler Co.—

Temporarily we are absorbing the war tax. We are inclined to think that we may follow the lead of some other manufacturers and add it to each invoice.—M. H. Brown.

### 12—Brown & Caine.—

We are not raising our list prices. We are not adding the tax as a tax to each invoice as this cannot be satisfactorily done. It would be proper for us, if we so desired, to add the 5% tax to our jobbers' invoices. But, it would not be proper under the law, as we interpret it, for us to add to the net face of the dealers' invoices the 5%. And, if we added the 5% tax to the net face of the jobbers' invoices this would immediately give the dealer information as to what said merchandise cost the jobbers. This is not advisable.—Brown & Caine, Inc.; J. W. Leigley, sales manager.

### 13—Bonney Vise and Tool Works.—

From the information we are able to get on the subject, we do not believe our product is taxable, inasmuch as the material we manufacture is not classed as "accessory" but rather "tools". We therefore do not feel in position to answer the questions which you raise.—Fred S. Durham, vice-president and treasurer.

### 14—Corcoran-Victor Co.—

We are enclosing herewith form letter which we are mailing to our customers, giving them the

## Don't Be Deceived

**I**F you add 5 per cent to your present list price you are paying more than 5 per cent tax.

Here's how it works:

Let us say that an article lists at \$100, sells to the dealer for \$75 and to the jobber for \$50.

You add 5 per cent to each of these figures. That makes the prices \$105, \$78.75 and \$52.50. You may have thought the tax in each case would be \$5, \$3.75 and \$2.50, but it is a trifle more.

In reality you get  $\frac{1}{4}$  of 1 per cent less in real money than you did before, for 5 per cent of \$105 is \$5.25, and you receive \$99.75. The tax is \$5.25.

To get as much money as you got before and still pay the 5 per cent tax yourself you must add 5.27 per cent instead of 5. Then the tax on \$100 makes the list \$105.27. The tax is \$5.27 and you have the same old \$100 left.

To raise your price to absorb the tax you should advance the list, dealer's and jobber's prices 5.27 per cent each, making them \$52.63, \$78.95 and \$105.27.



details of our views in the matter and our method of making collection. First: On our April list price-list covering the second quarter of this year there appeared a notice advising that 5% would be added to all invoices on goods for home consumption, the same as appeared on invoices covering goods shipped you since the passage of this law. Second: On goods sold for export, and in due course so exported, no tax would be charged. Third: On goods sold for use on tractors or in connection therewith, or with the sale thereof, no tax would be charged. So that you may more clearly understand our decision in this matter, we refer you to title No. 9, Section No. 900; also Section No. 1310, paragraph "B" and "C" of Excise Tax.—Corcoran-Victor Co.; G. P. Doll, auditor.

15—Columbus Varnish Co.—If it is definitely settled that our line of merchandise is to be taxed, we will absorb same. It is a very difficult thing to put a tax of this percentage on our products and pass it along, unless we raise the prices considerably.—Columbus Varnish Co.; S. W. Hanna, vice-president.

16—Corning Glass Works.—See letter from Edward A. Cassidy Co., No. 1.

17—Connecticut Tel. & Elec. Co.—Our manner of handling this proposition is to add the tax as a tax to each invoice. Due to the fact that, in addition to the automobile accessories which we furnish to the accessory trade, we have in addition a large number of ignition parts we can furnish as replacements to jobbers, etc., we have found that the adding of the tax as a tax to the invoice is practically the only method in which we can handle this matter satisfactorily. Owing to the large number of these parts which we furnish to the trade, as well as the articles which we furnish to the accessory trade, and, due to the fact that our lists have already been published and that the labor that would be involved in changing these lists would be something enormous, we found that our present method of taking care of this tax was the only practical method for us. Furthermore, we are very much pleased to know that there is very little objection among the trade to our method of handling this matter, although we must admit that a very few of our customers have raised very strenuous objections. These objections, however, have been withdrawn after we have given our friends an explanation of our reason.—Connecticut Tel. & Elec. Co.; R. L. Sessions, manager order department.

18—Cooper Manufacturing Co.—Replying to your letter of April 17th, will say that we are at the present time adding the 5% war tax to each of our invoices to the jobber. We have rearranged our schedule of prices and as soon as our catalog is sent out, which will be in ten days or two weeks, we will absorb the tax and no mention will be made of the tax to the jobbers.—Cooper Mfg. Co.; H. M. Cooper, secretary and treasurer.

19—Continental Piston Ring Co.—We are absorbing the tax and are not raising the price nor adding the tax to each invoice.—Continental Piston Ring Co.; Lewis Emrich.

20—Challoner Co.—We are absorbing the excise tax without any change in our price. We believe that this answers all three of your inquiries. As

to our reasons for handling the matter in this way, will say that after a very careful consideration we have found it impossible to discover any other method by which this matter can be handled, so as to avoid such serious complications with jobbers and others through whom we are selling our product as to make it utterly impossible for us to do otherwise. If this tax were added to our invoice to jobbers, and he in turn added it to invoice to dealer, the dealer would be informed from the amount of the tax as to the price at which we were selling to the jobber.—Challoner Co.; H. M. Osgood, manager.

21—Chicago Fuse Mfg. Co.—We are adding this as a separate item to all invoices and believe that this meets the approval of our trade, as very few complaints have been received regarding this action.

—Chicago Fuse Mfg. Co.; Geo. A. Millus.

22—Durkee-Atwood Co.—There has been of course no definite ruling from Washington as yet as to whether all products which are in the true sense of the word supplies will be subject to the tax. We and other manufacturers of such supplies do not believe that they will be, but do expect to pay tax on tire patches, etc. We have advised the trade that we will absorb all tax on products of our manufacture. As yet it has not been necessary for us to raise any prices, due to the fact that our cost on certain raw material has dropped enough so as to make it possible for us to absorb this tax.—Durkee-Atwood Co.; E. V. Atwood.

23—Dayton Wire Wheel Co.—It is our desire to co-operate with the jobber in the handling of this excise tax con-

dition, but until such time as we are able to procure from a legal standpoint the proper interpretation concerning the handling of this situation it will be necessary for us to add same to our invoices in a net amount. If we try to add the war tax to the list it would be a discrimination, for such procedure would give either us or the jobber who buys in large quantities a greater profit, which we feel would be an unfair way of collecting the tax.—Dayton Wire Wheel Co.; Wm. E. Laidlaw, sales manager.

24—Eccolene Co.—See letter No. 1, from Edward A. Cassidy Co.

25—E. A. Laboratories, Inc.—We advanced our prices 5% and also made corresponding advances in our suggested dealers' resale and list prices. We are, therefore, now in position to invoice our mer-

## What Automotive Equipment Man To Find the Manufacturer's Comment on His Reasons for His That Is Opposite His

Name of Company	ABSORBING TAX		RAISING PRICE		ADDING TO INVOICE		Comment
	Yes	No	Yes	No	Yes	No	
1. Acheson Graphite Co.	..	..	..	..	..	..	Not taxable.
2. Allen Auto Specialty Co.	Yes	..	..	No	..	No	Cut cash discount from 5 to 2%.
3. Atwater Kent Mfg. Works	..	No	..	No	Yes	..	..
4. Au-to Compressor Co.	Yes	..	Yes	..	..	No	..
5. Adamson Mfg. Co.	..	..	..	..	..	..	No policy as yet.
6. American Ever Ready Works	..	No	..	No	Yes	..	..
7. Apco Mfg. Co.	Yes	..	Yes	..	..	No	..
8. American Electric Co.	..	..	..	..	..	..	Says 35% absorb, 65% add.
9. Advance Felt Spec. & Cut. Co.	..	No	..	No	Yes	..	..
10. Brunner Mfg. Co.	..	..	..	..	..	..	Not subject to tax.
11. Brown Spring Oiler Co.	Yes	..	..	No	..	No	May add tax.
12. Brown & Caine, Inc.	..	No	..	No	..	No	Shortened discounts.
13. Bonney Vise & Tool Works, Inc.	..	..	..	..	..	..	Not taxable.
14. Corcoran-Victor Co.	..	No	..	No	Yes	..	Not all goods taxable.
15. Columbus Varnish Co.	Will	..	May	..	..	No	Undecided if taxable.
16. Corning Glass Works	Yes	..	..	No	..	No	Handled by Cassidy.
17. Connecticut Tele. & Elec. Co.	..	No	..	No	Yes	..	..
18. Cooper Mfg. Co.	Will	..	Will	..	..	No	Will raise and absorb.
19. Continental Piston Ring Co.	Ye	..	..	No	..	No	..
20. Challoner Co.	Yes	..	..	No	..	No	..
21. Chicago Fuse Mfg. Co.	..	No	..	No	Yes	..	..
22. Durkee-Atwood Co.	Yes	..	..	No	..	No	..
23. Dayton Wire Wheel Co.	..	No	..	No	Yes	..	Not sure of status.
24. Eccolene Co.	..	..	..	..	..	..	Not taxable. Handled by Cassidy
25. E. A. Laboratories, Inc.	Yes	..	Yes	..	..	No	..
26. Edmunds & Jones Corp.	..	No	..	No	Yes	..	..
27. E. Edelmann & Co.	Yes	..	Yes	..	..	No	..
28. Howard Ford Mfg. Co.	Yes	..	..	No	..	No	..
29. Fitzgerald Mfg. Co.	..	No	..	No	Yes	..	..
30. Firestone Tire & Rubber Co.	..	No	..	No	Yes	..	..
31. Federal Rubber Co.	Tire Acc.	Tires	Tire Acc.	Tires	Tires	Tire Acc.	..
32. Gray & Davis, Inc.	..	No	..	No	Yes	..	Except on special line.
33. Gemco Mfg. Co.	Yes	..	Yes	..	..	No	..
34. Goodrich-Lenhardt Mfg. Co.	..	No	..	No	Yes	..	..
35. Globe Machine & Stamp. Co.	Yes	..	..	No	..	No	..
36. General Asbestos & Rubber Co.	..	No	..	No	Yes	..	..
37. Gates Rubber Co.	Yes	..	..	No	..	No	..
38. Edward V. Hartford, Inc.	Yes	..	Yes	..	..	No	..
39. Higgins Spring & Axle Co.	..	No	..	No	Yes	..	..
40. J. H. Haney & Co.	Yes	..	..	No	..	No	..
41. John O. Heinse Co.	..	No	..	No	Yes	..	..



chandise at a price which includes the tax and without making any mention of same on invoices. This seems to meet with the approval of the entire trade.—E. A. Laboratories, Inc.; W. Von Elm.

26—Edmunds & Jones Corp.—We are adding the 5% excise tax to our billing as a separate item on our invoices and have not changed our prices to absorb the tax. We believe this is the correct manner to handle the tax, for, as you know, it is necessary that we, as accessory manufacturers, have to prepare a statement monthly for the Government, showing how our total tax is arrived at, and we believe the manner in which we are showing this on our books is the only way by which you can arrive at the correct tax. For instance, if we raise our price 5% and do not show it on our billing, we would then be obliged to

keep a separate record to make the Government statement, and the amount on which we would pay the 5% would naturally be 5% greater than the amount we are now paying on. We cannot absorb the tax in our present selling cost, as our margin of profit will not allow it.—Edmunds & Jones Corp.; L. H. Bedford, treasurer.

27—E. Edelmann & Co.—Under date of April 4 we issued a new price list raising price to include the tax. When this tax first went into effect we were adding same to each invoice as a separate item and as over 90% of our jobbing customers wrote us to the effect that it would help them considerably if we would print a net price list, after due consideration we complied with their wishes.—E. Edelmann & Co.; L. B. Koral, vice-president.

28—Howard Ford Mfg. Co.—

We are absorbing the Federal 5% tax on all of our products.—Howard Ford Mfg. Co.; Howard K. Ford.

29—Fitzgerald Mfg. Co.—We are charging the tax just the same as the other manufacturers.—Fitzgerald Mfg. Co.; B. Best, sales manager.

30—Firestone Tire & Rubber Co.—We are adding the excise tax as a tax to each invoice, basing the tax on our regular wholesale price and furnishing the dealers with list as per sample enclosed, making it convenient for them to add the proper amount of tax to the consumer's invoice as the goods are sold. We feel that the consumer is entitled to know on what class of goods he is paying the tax and the amount of same. We do not think that the automobile industry is correctly judged when it is classed with luxuries, and we believe the public, who are the final

Judges in matters of taxation and legislation, will feel the same way about it if they thoroughly understand just what the tax is and what it means to them. Absorbing the tax or scheduling the goods at flat prices, even though prices were increased to include the tax, would allow the jobbers, dealers and consumers to very soon forget that any such tax was included, and the value of having the public conversant with conditions would be lost.—A. G. Partridge, general sales manager.

31—Federal Rubber Co. of Illinois.—On auto tires the price is not changed and the tax must be added to the invoice. On tire accessories, however, this tax is absorbed. In other words, it is included in the purchase price.—Federal Rubber Co. of Ill.; Callin C. Shauer, pneumatic tire sales dept.

32—Gray & Davis, Inc.—We have not as yet changed our price list to include this tax. We are annexing it and billing it to our customers on all material shipped by us except one particular product of special character, in which case we have agreed to absorb the excise tax ourselves.—Gray & Davis, Inc.; B. J. Moses, treasurer.

33—Gemco Mfg. Co.—Up to the first of April we added the 5% excise tax separately to each invoice. Effective April 1 we issued a new set of prices, in which the war tax was absorbed. In some cases we were able to absorb the tax without making any change in the price. On other items, however, we were obliged to add from 1% to 5% to our former list prices. This change was made because the jobbers really demanded it, and we find that they are better satisfied all around, now that the new prices are in effect.—Gemco Mfg. Co.; E. A. Haertlein, sales department.

34—Goodrich-Lenhart Mfg. Co.—Answering question No. 1 we are not absorbing the tax, but are adding it to the total amount of each invoice. Answering question No. 2 we are not raising the price to include the tax. Answering question No. 3 we are adding this tax to each invoice. Relative to the sentiment in the jobbing trade will say that the manufacturers do not blame the jobbers for wanting to deduct this tax if he can; however, we cannot see how the jobber can expect the manufacturer to absorb it when Congress thrust same upon us and we are forced to abide by the law. We do not see how any manufacturer, large or small, can afford to absorb this tax. It is our feeling that if this has to be done it must be taken out of the quality of the product. We would be willing to raise our prices to include the 5%, providing the jobbers would not insist on us filling orders placed prior to February 25, 1919, at a price which we accepted at the time but did not include the 5%. This a number of jobbers are trying to force upon us and we have merely taken the attitude that we can assume the 5% but must add it to the face of each and every invoice. We are hoping this matter will be thoroughly threshed out at the next meeting of the Automotive Equipment Association at Hot Springs, and we will be very glad to confine our policy to that which will be the best for the future of the automotive trade. However, we believe that the tax should be levied by the dealer

## Manufacturers Are Doing with the Tax

Plan, Locate the Letter on These Pages Which Bears the Number Name in This Table.

Name of Company	ABSORBING TAX		RAISING PRICE		ADDING TO INVOICE		Comment
	Yes	No	Yes	No	Yes	No	
42. Hide Leather & Belting Co.....	Yes	..	Yes	..	..	No	Change now in progress.
43. J. & B. Mfg. Co.....	Yes	..	Yes	..	..	No	
44. Judd & Leland Mfg. Co.....	Yes	..	Yes	..	..	No	
45. H. W. Johns-Manville Co.....	..	No	..	No	Yes	..	Only part taxable.
46. Kellogg Mfg. Co.....	Yes	..	..	No	..	No	
47. Laminated Shim Co.....	..	No	..	No	Yes	..	
48. Lockwood-Ash Motor Co.....	..	No	Yes	..	Yes	..	Changing dealer discounts.
49. A. R. Mosler & Co.....	..	No	..	No	Yes	..	
50. McQuay-Norris Mfg. Co.....	Yes	..	..	No	..	No	
51. F. W. Mann Co.....	Yes	..	Yes	..	..	No	Only part taxable.
52. Moto Meter Co.....	..	No	..	No	Yes	..	
53. Motor Specialties Co.....	Yes	..	..	No	..	No	
54. Mayo-Skinner Mfg. Co.....	..	No	Yes	..	Yes	..	Not taxable.
55. Frank Mossberg Co.....	Yes	..	..	No	..	No	
56. Northwestern Chemical Co.....	..	..	..	..	..	..	
57. Paul G. Niehoff & Co.....	..	No	..	No	Yes	..	Considering change.
58. New Era Spring & Spec. Co.....	Yes	..	Yes	..	..	No	
59. G. Piel Co.....	Yes	..	Yes	..	..	No	
60. Perkins-Campbell Co.....	Yes	..	..	No	..	No	May raise price.
61. Philips-Brinton Co.....	..	No	..	No	Yes	..	
62. Packard Electric Co.....	Yes	..	Yes	..	..	No	
63. Russell Mfg. Co.....	..	No	..	No	Yes	..	Handled by Cassidy
64. Rajah Auto Supply Co.....	Yes	..	Yes	..	..	No	
65. Romort Mfg. Co.....	Yes	..	Yes	..	..	No	
66. Splitdorf Electrical Co.....	Yes	..	..	No	..	No	Change now in process.
67. Spencer Metal Products Co.....	Yes	..	Yes	..	..	No	
68. Silvev Co.....	Yes	..	Yes	..	..	No	
69. Standard Woven Fabric Co.....	..	No	..	No	Yes	..	Recommends new resale.
70. Stevens & Co.....	Yes	..	Yes	..	..	No	
71. Sharp Spark Plug Co.....	Yes	..	Yes	..	..	No	
72. Shurnuff Mfg. Co.....	Yes	..	..	No	..	No	Plans to change.
73. A. J. Stephens Rubber Co.....	..	No	..	No	Yes	..	
74. Sterling Mfg. Co.....	Yes	..	Yes	..	..	No	
75. Sunderland Mfg. Co.....	..	No	..	No	Yes	..	Partly exempt.
76. Thermoid Rubber Co.....	..	No	..	No	Yes	..	
77. Vital Mfg. Co.....	..	No	..	No	Yes	..	
78. Vesta Accumulator Co.....	Yes	..	Yes	..	..	No	Not taxable.
79. Victor Mfg. & Gasket Co.....	..	No	..	No	Yes	..	
80. West Side Foundry Co.....	Yes	..	..	No	..	No	
81. Weaver Mfg. Co.....	..	..	..	..	..	..	Six not taxable.
82. Walker Mfg. Co.....	Yes	..	Yes	..	..	No	



at the time the sale is made, the same as the luxury tax which takes effect May 1, as it is not consistent with good business to have the tax placed on the wholesale price of merchandise unless it is passed on to the jobber, to dealer, to consumer.—Goodrich-Lenhardt Mfg. Co.; Ivan Goodrich.

**35—Globe Machine & Stamping Co.**—Previous to May 1 we are and have been adding this tax as a separate item on all invoices, much in the same manner that the transportation companies handled the 3% war tax. In other words, the prices we quoted remained the same and an extra 5% was added to the amount of the invoice to take care of the excise tax. However, you are advised that, after considerable investigation, we have decided, in view of the fact we believe that by absorbing the war tax and allowing our present prices to remain the same we can get a larger volume of business. Effective May 1 and until the present excise tax is lifted we will absorb this tax, allowing the present prices we have quoted for 1919 on the articles of our manufacture for the automotive industry to stand. Do you get the idea? If we sold a box at \$1.25 previous to May 1st, we would have added the 5% war tax on the face of the invoice. Now, after May 1st the price will remain \$1.25—and no war tax will be added—we absorbing it ourselves.—Globe Machine & Stamping Co.; R. B. Mullen.

**36—General Asbestos & Rubber Co.**—After considering this matter from every angle, we have reached the conclusion that the most equitable way in which this tax can be handled is to compute the 5 per cent levied, against the net amount of each invoice, covering our Garco Asbestos Brake Band Lining, and Garco Ford Transmission Lining, sold to the jobbing trade, and add it as a separate item. While the United States Government will look to us to make returns to the Treasury Department on this tax, it is not the intention of the Government that the manufacturer absorb it. It is optional with us whether we accept it as a part of our cost and increase our discount or net prices accordingly or to continue our present discount and net prices and add the tax as a separate item on each invoice covering these materials. We know of but one manufacturer who has adopted the plan of revising his list to include the 5 per cent tax and continuing to allow his former discount to apply. The list prices are not even, and it is absolutely impossible to advance the list exactly 5 per cent. In the few instances possible, this manufacturer has made an exact 5 per cent advance but on the majority of the list prices, the advance has been over 5 per cent, to prevent the manufacturer sustaining a loss. The manufacturer, however, is not reaping the benefit of this, as the difference is paid into the treasury of the United States, but the fault that we find with it is that the jobber is really paying from two to three per cent more for his materials by this plan. We endeavor at all times to look after the interest of our customers, as well as our own, realizing that their prosperity reflects to our advantage. For this reason, we have definitely adopted the plan of adding the tax as a separate item, as this will put no added burden on the jobber, and he can readily advance his prices

to include the tax, and continue to enjoy the same margin of profit as formerly. To eliminate the necessity of extra bookkeeping on the part of the jobber, we have compiled a table showing their net prices, based on our present discount, plus the 5 per cent tax. We have also worked out tables of suggested resale prices in which legitimate trade discounts are allowed, with the tax embodied, as a part of the resale price. The jobber need make no mention on the invoice to his customer of a tax, but from the table can readily determine the net price that he should charge his customer on the quantity of material that may be involved. If you will make a canvass of the manufacturers in the same lines as ours you will find that at least 75 per cent, if not more, are pursuing the same plan that we have adopted. This is in reply to your letter of April 17, and conveys to you not only our opinion but our method of handling the tax, and we believe that this is the simplest and the best way to dispose of a matter that is complicated at best, to the interest of all concerned.—General Asbestos & Rubber Co., F. C. Riddick, Assistant Sales Manager.

believe is the plan now being followed by the majority of manufacturers.—Edward V. Hartford, Inc., A. Waterman, General Manager.

**39—Higgins Spring & Axle Co.**—Inasmuch as the manufacturer, producer and importer is called upon to remit this amount of tax to the Government, observing this question from several angles, especially from a point of accounting, the manufacturer should apply this tax as a separate item to the invoice. The law is very intricate in this respect. The seller should make no misrepresentation to the buyer as to the amount of tax in contravention of Section 1319 of the Act. As stated herein, there are so many different angles to be considered in the applying of this tax and in order to escape any point that might be brought up by the buyer—who is entitled to know at any time, irrespective of whom the buyer might be, what the tax might be—where it is shown on the face of the invoice records are very clear in this respect. It has come to our knowledge that if the price of an article is increased to cover the tax, the tax is to apply on such increased price; in other words, this would mean a tax on a

accurate statement that the law is observed and that we are collecting the exact amount which we shall remit to the Government. Purchasers are ready and willing to pay the tax, but they are suspicious that more than the regular amount of tax may be collected by means of lists and discounts. Nobody questions the tax if they are assured that the Government will receive the money.—R. B. Miller, General Manager.

**42—Hide Leather & Belting Co.**—We have changed our prices so as to include in quotation the 5 per cent excise tax. Where lists and discounts have been used, we have changed our discounts to meet the tax. Until these new schedules can be brought out, we are adding the tax on each invoice. It is our opinion that this is the best way to handle this very difficult item. Our experience has been that it is very difficult to handle the matter at its best, and we adopted this method as we felt that it would be most satisfactory to the jobbing trade as a whole.—Hide Leather & Belting Co., A. H. Olds, secretary and treasurer.

**43—J & B Mfg. Co.**—We have raised our jobbers' prices to include the war tax, and rearranged our resale and list prices. We took this course, due to the demand of the jobbing trade and have found that it is satisfactory.—J & B Mfg. Co.; G. H. Southard, Jr., Treasurer.

**44—Judd & Leland Mfg. Co.**—Our prices have been slightly varied, not because of the war tax but because of reduction in cost. Some numbers remain the same as before the tax, some have been slightly reduced. We can only state that our method of controlling our prices will remain as in the past, governed by costs of materials and labor. We have increased the suggested price to the dealer and the consumer on what is commonly called the list so that our jobbers may quote a price including the tax. This is done because if the jobber were compelled to show the tax he would also reveal to the customer his costs. Our method of billing is to show the net price and add to the amount of the invoice the war tax applying to shipments. This is done because it avoids compounding the tax; it fixes on our records the definite amount collected for reference of the inspector and to be used in paying our taxes. It also avoids confusion which might be disastrous to us in the minds of the buyers of our product. If one house is quoting the tax absorbed and the other quoting prices and adding the tax and the buyer neglects to observe the difference there will be a considerable advantage in favor of the house which was adding the tax. We are unwilling to place ourselves at this possible disadvantage. A quotation sheet has lately been sent to our customers showing our price to the jobbing trade without and including the tax, also suggested price for the dealer and the consumer. We believe we have made ourselves as plain as possible to our customers by this method.—Judd & Leland Mfg. Co., C. B. Leland.

**45—H. W. Johns-Manville Co.**—We have reduced our price in a sum equivalent to the tax and are billing our trade at this new and reduced figure, showing the tax separately and added to each invoice. Our method has met with the approval of all of our jobbing customers and is of material

## IS IT FAIR?

WE would be willing to raise our prices to include the 5 per cent tax, providing the jobbers would not insist on our filling orders placed prior to Feb. 25 at a price which we accepted at the time, but did not include the 5 per cent tax. This a number of jobbers are trying to force upon us, and we have merely taken the attitude that we can assume the 5 per cent but must add it to the face of each and every invoice. We are hoping this matter will be thoroughly threshed out at the next meeting of the Automotive Equipment Association at Hot Springs—Goodrich-Lenhardt Mfg. Co., Ivan Goodrich.

**37—Gates Rubber Co.**—We at first added the tax to our invoices to jobbing customers as a specific item, but found that this entailed a great deal of extra work for the jobber. Viewing the matter as one of extending further co-operation we have recently advised jobbing customers that we would absorb the tax and expect to be compensated by the increased volume which should result from the new method of handling the matter.—Gates Rubber Company, J. H. Crary, Manager Sundries Department.

**38—Edward V. Hartford, Inc.**—We are taking care of the excise tax by raising the list prices to include this tax. We began by simply adding the tax to our invoices and thought this was the desirable way to do it, as it would not make it necessary to change published list prices. We were not in position to absorb the tax and found out later that the jobbers felt it would be necessary for them to raise the list price if we did not because the Government agents had informed them that they could not add the tax as a tax to their invoices—neither could the dealer. Consequently, the only way out was for us to raise our prices so as to include the tax, and this we

tax. As an example: If an article is sold for \$10 and the tax was added to the selling price, this would make the tax 53c. instead of 50c., where the tax is shown separately on the invoice, and, in order not to be in contravention of Section 1319 of the Act, we believe that all manufacturers should add the tax to the invoice as a separate item. This is the most simple way of doing business and we feel fully confident you will find all are doing so.—Higgins Spring & Axle Co., Geo. L. Pederson.

**40—J. H. Haney & Co.**—We are absorbing the new 5 per cent tax on our automobile accessories without any change in price. We find that we are able to do this without any advance on account of the decline in steel. The price on the class of steel that goes into our articles has dropped from a discount of 17 per cent to a discount of 28 per cent, which with other slight reductions just about makes it possible for us to absorb this extra 5 per cent.—J. H. Haney & Co.

**41—The John O. Heinze Co.**—We are adding the tax as a tax to each invoice. This is done because no explanations are required; every invoice carries upon its face an



assistance to us in determining the amount of tax due the Government. We do not know what method has been adopted by other manufacturers, but think that our own is most satisfactory, both from our standpoint and that of our customer. — H. W. Johns - Manville Co., M. H. Blackwell, General Automobile Equipment Department.

**46—Kellogg Mfg. Co.**—We are absorbing the tax with no change in list price or discounts. Our ability to do this is due to the fact that increased production and slight reduction in our cost of manufacture enable us to save what is practically the equivalent of this tax, and we thought that, handling it in the method mentioned above was the best way, and the way that would be most appreciated by the jobbers and the dealers. — Kellogg Mfg. Co., M. R. Anstice, President.

**47—Laminated Shim Co., Inc.**—We only have to add the tax on material shipped to jobbers, and then only on one class of material, in which cases we add the 5 per cent to each invoice. Just at this time we do not feel like raising our prices, and on the comparatively small amount of goods shipped to jobbers do not believe it will affect the situation in any way. — Laminated Shim Co., Inc., B. Darrach, Jr., General Manager.

**48—Lockwood-Ash Motor Co.**—We are adding the excise tax as a tax to each invoice. We have taken care of the jobber by re-arranging our suggested resale price to the dealer to absorb the tax at that point, so that it need be billed as a tax no further. — Lockwood-Ash Motor Co., A. L. Lockwood.

**49—A. R. Mosler & Co.**—We are charging the jobbing trade with the 5 per cent war tax, as our price schedule will not permit us to absorb this 5 per cent. We are therefore adding it to each invoice. On the dealer prices: At the time of our last raise, November 1, this rumor was very much in the air, and, where we jacked the jobbing price an average of from 5 to 7 per cent, we jacked up the dealers' price from 10 to 15 per cent, so that the jobber is amply covered on the dealer and there is no need for him to charge the tax. — A. R. Mosler & Co., J. W. Fischer, Jr., Sales Manager.

**50—McQuay-Norris Mfg. Co.**—This company is absorbing the excise tax with no change in our prices nor have we in mind at this time any later change because of this. Our reason for absorbing the tax without price change, at a time when production costs are higher than ever before, is that, after two weeks study of this situation we could see no other way to handle the tax without great confusion following any price change. We could plan no way in which we could otherwise handle it without burdening our jobbing customers with terrific administrative expense and more or less price demoralization. — McQuay-Norris Mfg. Co., L. A. Safford, second vice-president.

**51—F. W. Mann Co.**—See letter from Edward A. Cassidy Co., No. 1.

**52—The Moto Meter Co., Inc.**—We are rearranging the dealers' discounts and adding the tax as a tax to the jobbers' invoices. This, of course, does away with the change of list prices and does not change our discounts to the jobber. — W. G. Loeser.

**53—Motor Specialties Co.**—1: We are absorbing the tax without changing our price schedule. As to what we shall do in future on this matter it is hard to say, but we are practically convinced that there will be no reduction during the present year. 2: We have not raised the price of our goods to the jobber. 3: We are not adding the tax to invoice. Briefly, since the signing of the armistice we have been able to reduce our cost to the extent which we feel meets the 5 per cent war tax, and we feel, therefore, that in handling it as we have done we are using the best means to stabilize our business and to induce jobbers to place their specifications. Unfortunately this is not being done to the extent that we should wish, but nevertheless we feel sure that at the end of the present year we shall show sales returns equal to if not surpassing in volume that of 1918. — Motor Specialties Co., A. Fraser, sales manager.

**54—Mayo-Skinner Mfg. Co.**—We are maintaining the same jobbing prices as before, and are adding the tax in plain figures to the amount of our invoices. We have adjusted all dealers and consumer prices so that the jobber selling on the basis of resale quotations we suggest be reimbursed for the added cost on account of the tax. — Mayo-Skinner Mfg. Co., by Franklin Mayo.

**55—Frank Mossberg Co.**—We are at the present time absorbing the excise tax without change in the list prices or discounts and are not planning to change the prices later on, except as we find it necessary to revise our prices because of advanced costs in general. You will understand that only a small part of our product has been judged as taxable, and this will explain to a very great extent why we are able to absorb this tax without increasing our prices. — Frank Mossberg Co., J. W. Money, Asst. in Sales.

**56—Northwestern Chemical Co.**—So far Norwesco Utilities are not included in the Federal tax. — Northwestern Chemical Co., R. M. Tussing, advertising manager.

**57—Paul G. Niehoff & Co.**—We are adding the excise tax as a tax to each invoice. Our prices were issued previous to the time the tax went into effect and a revision of prices would generally be a difficult proposition, and it would be impossible for the manufacturer to absorb the tax in the resale of his merchandise. We believe that this is the only practical means of determining the question. There may be some confusion in the buyer's mind when the tax is included as to the price of his commodities. It is our desire, however, to co-operate with the jobbing trade, and when a final decision is reached on the method of application, we may fall in line. Therefore, we would be glad to have you keep us informed as to the result of your canvass. — Paul G. Niehoff & Co., Inc., C. E. Niehoff, secretary and treasurer.

**58—New Era Spring & Specialty Co.**—We are revising our list prices as rapidly as possible by adding 5 per cent to the former list. As soon as the jobbers through whom our goods are marketed are properly notified and have received revised price list, these revised prices will go into effect and we will absorb the 5 per cent tax. At the present time, however, we are adding it to all invoices. With reference to the last paragraph

of your letter, in which you desire that we give you our reason for this action, we wish to advise that it was done at the request of the majority of our distributors, all of whom were of the opinion that adding the 5 per cent to the net amount of their invoices would be working a great hardship on them, inasmuch as it would enable the dealers to whom they sold their products very readily to ascertain their net cost prices and therefore easily ascertain the exact profit they were making. Thus, in conference, we decided, inasmuch as our interest and those of the jobbers handling our products are so very close allied, and inasmuch as it has always been our business policy to co-operate in every possible way with the jobbers handling our products, and in view of the very close friendly relations existing between us, we could not do other than conform to their desires, inasmuch as this would not inconvenience us, except to the extent of issuing the price list. — New Era Spring & Specialty Co., W. B. Blood, vice-president.

**59—G. Piel Co.**—See letter No. 1, from Edward A. Cassidy Co.

**60—The Perkins-Campbell Co.**—We are absorbing this without change in price at the present time, but we expect to add it into our costs at later dates. — Perkins-Campbell Co., M. D. Campbell, sales manager.

**61—Phillips-Brinton Co.**—We are adding the tax to each invoice. We have done this after communicating with others in our same line of business, and believe it is decidedly the best method to pursue. We understand the intention of this tax is to have it carried to the consumer, and if so, it can be done best by adding the tax to the invoice so that as soon as the tax is taken off the price will remain as heretofore. Otherwise the consumer would probably be taxed more than necessary, because we would have to make the increase in price sufficient to include the tax on our wholesale price, and this would make the retailer pay more than the 5 per cent tax. In other words, our list would have to be made high enough so that the tax would be included with the discount off. I think the law states distinctly that it would not be allowable to make the charge in excess of the 5 per cent, so that I think there would be some complications enter in if it were done in this way, but if the 5 per cent is added to the bills that we send out and that same amount carried on in the invoice by the jobber and the dealer they would then have the definite amount of tax to the consumer, which, as we understand it, is the intention of the law. We believe this will create less confusion and difficulty than any other method. The only possible objection that we can see to it is that it would enable the consumer to know the approximate price that the wholesaler paid for the particular article if he would stop to figure it up, knowing that the tax was 5 per cent. I think, however, that is overbalanced by the advantages and simplicity of the other method. — Edwin S. Phillips, president.

**62—Packard Electric Co.**—We have raised our list prices 5 per cent all the way through to take care of the tax, absorbing it ourselves. It is our idea that this is the easiest way to handle the matter. The adding of the tax to each item of the invoice to the jobber would either force him to absorb the tax himself or to establish a new list price him-

self, differing from that of the factory. Or, as a third alternate, to add the tax as a separate item to each one of his invoices, thus exposing to the dealer the cost of the goods to the jobber, and this, of course, is not desirable from the jobbers' standpoint. We have nearly 200 jobbers buying our cable to whom we have sent new list prices with the 5 per cent increase shown, and so far not a complaint of any kind. The matter seems to be working out very well this way. — Packard Electric Co., R. N. Skillman, manager cable sales.

**63—Russell Mfg. Co.**—We have adopted the method of adding this to the face of our invoice, as this seems to be the most practical solution of the matter to us. — Russell Mfg. Co., H. W. Kelsey.

**64—Rajah Auto Supply Co.**—We are increasing the price to include the tax, as the jobbers seem to prefer to have the matter handled in this way. As far as we are concerned, we would rather keep the tax entirely separate, as otherwise the sales represent a false value, which always has to be taken into consideration. — Rajah Auto Supply Co., H. R. Buntin, general manager.

**65—Romort Mfg. Co.**—We are going to absorb the tax on Ewald foot accelerators and Ewald cut-outs, raising the price slightly to cover this tax. We have already advised the jobbers of this change. The balance of our line, which is air valves and garage equipment, we understand is exempt from the tax. — Romort Mfg. Co., F. E. Willard, secretary.

**66—Splittdorf Electrical Co.**—We are absorbing the excise tax with no change in price. That part of our product which is taxable has been much advertised by us and the retail price has always been brought before the public, so that it would be inconvenient at this time to change the price. We are hoping that the tax expense will be offset at an early date by reduced cost of materials. — Splittdorf Electrical Co., P. J. Landemare, treasurer.

**67—Spencer Metal Products Co.**—At the time this law became effective we found ourselves with thousands of dollars' worth of orders on our books which were taken at stipulated prices. The addition of the tax therefore made it necessary for us to add the tax to the invoice as a separate item, upon which we did not allow discount. This method met with the approval of most of our customers. However, since this tax has now become one of our fixed cost items, we have decided to change our prices to include the tax and make no mention of same on invoices. Our products are subject to a 5 per cent tax on selling price. We have decided to increase our present prices uniformly 5 per cent; this, we realize, will reduce our net returns to some extent, as we will be obliged by this to allow a discount and pay a tax on the tax. But to avoid a misunderstanding we have decided to advise all of our customers by circular of this move, and the new price will become effective May 1. We would be pleased to learn the results of your inquiry from the other manufacturers, and thank you for the opportunity afforded of expressing our views. — Spencer Metal Products Co., George E. Roberts, assistant general manager.

**68—Silvex Co.**—We are absorbing the tax. However, raising our prices to the jobber and also our resale price



## Mr. Jobber and Mr. Manufacturer: What do YOU think about it?

*IN the letters on these pages you will notice the frequent statement by manufacturers that they are anxious to learn what others are doing. Some also state that when they have more information they may change their plans.*

*Now that all this information has been put together in one place, showing about every conceivable method of handling the tax, what do both jobbers and manufacturers think on this subject?*

*Has any jobber in mind a generally acceptable plan other than the inclusion of the tax in the list, and has any manufacturer a suggestion along the same lines?*

*Letters on this subject will be read with interest by MOTOR WORLD readers.*

schedule.—Slivex Co., B. Y. Landis, sales department.

69—Standard Woven Fabric Co.—How are we handling the tax? That is what they are all asking us now and what is being asked of all manufacturers of automotive equipment. The situation generally seems to be about as confused and as confusing as it well could be. Here we will answer the questions in your letter of the 17th in the same order. No 1. Certainly not. No 2. No, we are not raising our price to our customers to cover the tax. Frequent price changes are disturbing in any business both to the manufacturer and to the purchaser. A change in price now would mean that another change would be required should Congress act again on the excise tax question. It does not seem to us that any real good is accomplished by advancing prices, while, on the other hand, it could be harm. No 3. The tax as such is being added to the face of the invoices. To help the jobber out of the difficulty that might result from this method we are recommending a new schedule of resale prices. The advance in these resale prices exactly covers the tax yet does not openly reveal the jobbers' cost. The method is simple and will, we believe, work out satisfactorily. We will be interested in the summary of the opinions that you receive.—W. J. Mahoney, sales department.

70—Stevens & Co.—Our action in reference to the excise tax is to include it in the net price quoted the jobbers. In some instances it has been necessary for us to increase our price to cover this additional cost and in others we have absorbed the tax mainly through withholding a reduction approximately of the same amount, which under changing conditions would have been possible. In our opinion one of the chief difficulties we are experiencing is that the interpretation of the law seems to be largely in the hands of individual district collectors, who are given a department ruling that all articles which are primarily for use on automobiles should be taxed. We find that in some districts a collector will interpret this one way and in others another where a similar article is sold in other trades. One thing which would be of tremendous assistance, and which I should like to see some one or some organization qualified to take it up with Washington, and that is an attempt to have the department indicate clearly by publishing a detailed list of every item which they consider the tax should be paid on, and have this apply to every manufacturer of this article regardless of what industry it is sold in. I think our difficulty is peculiar to ourselves

because they have included parts and accessories, but have not specified what they mean by such an elastic term. In the other items which they have listed as luxuries they are distinctly named. For instance, if one is unfortunate enough to be forced to consider a ten dollar pair of silk pajamas a luxury, instead of the real luxury of the nightgowns which mother makes, then the tax applies. If there is any one intending to take up this phase of the matter with the department we should be very glad to give concrete illustrations of the difficulties we mention.—Stevens & Co., Louis Schwab.

71—Sharp Spark Plug Co.—When the tax first went into effect we added the tax, as tax, to each invoice, although we felt at the time that it was not quite the proper procedure. We have since then advanced the price of our product in an amount equal to about half of the tax and have discontinued adding the tax to the invoices. Before making this move we had received expressions from most of our jobbers, and we find that the method now in effect is meeting with the approval of the trade.—Sharp Spark Plug Co., Frank D. Johnson, secretary-treasurer.

72—Shurnuff Mfg. Co.—In reply to your favor of the 17th wish to advise we are enclosing herewith a letter that has been mailed to all jobbers which thoroughly covers our situation in regard to the war tax. "We have just completed an analysis of the situation in reference to the war tax on automobile accessories, and as a result have decided to absorb this tax on all of the Shurnuff products. We realize that the 300 jobbers who have already catalogued our line for 1919 would have a large amount of additional clerical detail imposed upon them if they were obliged to make readjustments of their prices to include the war tax. We can only hope that an early decline in the raw material market will help us offset the curtailment of profit represented by our absorbing the tax."—Shurnuff Mfg. Co., John F. Shuford, president.

73—A. J. Stephens Rubber Co.—For the present we are adding to our invoices the excise war tax as assessed by the Government. We contemplate, however, changing this latter, at which time we will absorb the tax.—A. J. Stephens Rubber Co., F. A. Sorber, sales department.

74—The Sterling Mfg. Co.—We are employing Plan No. 2, although on an average we have not increased our prices quite enough to cover the tax. We agree, however, that the best way to handle the tax is to absorb it and make no mention of it on the invoices. We

are about to send out a circular letter to the trade, advising them of our new prices and reasons for making the change. We are enclosing a copy of our letter herewith which may or may not be of service to you. We are enclosing copy of our new price list made necessary by the levying of the Government excise tax of 5 per cent on automobile accessories and equipment. This sheet shows the latest list prices as well as the dealers' and jobbers' prices. We have delayed sending out this announcement awaiting definite instructions from the Government, but feel that the season is too far advanced to wait any longer. So far as we are able to judge the excise tax applies to our dash ammeters and spring oilers only. No other items have been advanced in price. We found it difficult to add the exact amount of the tax and accordingly added either 5c or 10c to the former jobbers' prices on dash ammeters and 1/4c to that of the spring oiler. On an average the additions are not sufficient to pay the tax and we are paying a portion of the tax ourselves. Our profits are not sufficiently large to allow us to absorb the tax without advancing the price on the items subject to it and we have acted in accordance with what we believe to be the wishes of the majority of jobbers. We have tried our best to meet the emergency in the most satisfactory manner possible and hope that our customers and friends will feel that the adjustment is fair and in line with the uniform policy demanded by the practically unanimous voice of the trade.—The Sterling Mfg. Co., W. M. Scott, sales manager.

75—Sunderland Mfg. Co.—We are adding the tax as a tax to each invoice. We would like to continue showing the tax on each invoice. It gives us a clear record in case the Government wishes to check back at any time, and as far as the jobber is concerned, we see no objection to his receiving invoices in this way. It has been our idea right along that when this tax came out the proper thing for the jobber to do was to increase the price of everything he had in stock 5 per cent regardless whether he had paid any tax on the articles in stock. This for the reason that he will have, at some future date, to meet a reduction of 5 per cent in the price of these goods at the time when this excise tax is withdrawn, and any additional profit that he might secure for goods on hand as of Feb. 25 would help to take care of the loss which he will have to take later.—Sunderland Mfg. Co., Geo. Sunderland.

76—Thermold Rubber Co.—We are handling the excise tax

by showing it as a separate item on each invoice we render our customers. We are following this course as the only practical one open for us. First, we are not in a position to absorb the tax. Second, it is not practicable for us to raise our prices to absorb it, as we would have to have at least three different sets of prices in order to meet all the conditions of our business; and this fact, with other complications, makes it practically an impossibility for us to handle it in any other way than to show it as a separate item on each invoice. To handle it in any other way would complicate our billing in such a way as to make it extremely difficult for us to satisfy the Government that we were sincerely co-operating with them in the operation of this bill.—Thermold Rubber Co., E. B. Knowles, sales manager.

77—Vital Mfg. Co.—We are adding the tax, as tax, to each invoice.—Vital Mfg. Co.

78—Vesta Accumulator Co.—We have changed our prices, adding the war tax. As we have always done business on the net price schedule and not by discount this was a comparatively easy task for us. It would, however, be difficult for others to follow our practice unless they had practised similar pricing methods in the past.—Vesta Accumulator Co., F. S. Armstrong, advertising manager.

79—Victor Mfg. & Gasket Co.—We are adding this tax as a separate item to our invoices, inasmuch as we believe that such action is proper in order to intelligently reimburse the Government and to keep our records clear. For your convenience we wish to advise that we have two branches of distribution: manufacturers who, in the majority of cases, use our product for new material, which requires no tax, and the jobbers who use gaskets for repairs, which require the tax.—Victor Mfg. & Gasket Co., A. C. Delson, sales manager.

80—West Side Foundry Co.—We are absorbing this charge and maintaining our same list price.—West Side Foundry Co.

81—Weaver Mfg. Co.—Because of the fact that our line is not subject to this tax we, of course, are not concerned.—Weaver Mfg. Co.

82—Walker Mfg. Co.—We are absorbing the Federal excise tax in our cost. In doing this it was necessary for us to advance the price to our jobbers on some of our items a nominal amount. On other items it was possible to maintain the prices in force previous to the inception of the tax.—Walker Mfg. Co., Harry R. Whirl, sales department.





J. M. Hambuechen of  
the Overland Automobile  
Co. in St. Louis says:

***FIRST—Get an Idea***  
***THEN—Plan a Campaign***  
***AND—Put It Over***

## How One Salesman Made \$1,100 in One Month

***T**HERE was an amazing rumor went around St. Louis during March. I happened to know the truth before I heard the rumor, but this is the way I first heard it unofficially:*

# How to Make Money Selling Motor Cars

*By Clyde Jennings*

**"I**S the automobile business good? Well, I should say it is! A salesman at the Overland made \$1,300 last month."

This story was often repeated, and when I last heard it the amount had grown to \$1,600. But that is neither here nor there. It merely shows how prosperity can grow. The truth was that an Overland salesman had made \$1,100, which is remarkable enough for any February to attract attention, and really it does not need exaggeration to make it a good story.

So, after another month had passed, the salesman was asked how his account stood for the three months of the year. He had then to his credit about \$3,000, and he was just going good, he thought.

"How did you do it?" I asked him.

"I got an idea and put it over," was the reply.

That, in brief, is the story of J. M. Hambuechen. It was not the first idea he had capitalized, but it was his most successful. He has been known as a "good" salesman for several years, and as one higher up in the selling business said of him:

"Hambuechen was never one of those men who fooled around with a sale to the man who has to mortgage his home to buy a car he cannot afford, but he always went after big game; the bigger the better, and he landed it most of the time."

Hambuechen was asked to write his own story. Here it is:

"My commissions in February amounted to approximately \$1,100.

"I accomplished the above result by concentrating my efforts on St. Louis undertakers, whom I found were dissatisfied with their high-priced limousine equipment, and after proving to them that they could put in Willys-Knight equipment and reduce their operating cost nearly 50 per cent, the rest was easy. As one undertaker expressed it: 'The 88-4 Knight limousine is filling a long-felt want, and is in operation more days per year than any car we ever used.'

"As undertakers believe in standardizing their equipment, I feel that this is only a starter."

[Continued on the next page]



Of course there is more to the story than this brief version. Let's go back a bit. Hambuechen, like most other vigorous Americans, wanted to help whip the Kaiser and so he offered his services and was sent to an officers' training camp. He completed the course with good grades, but on the last physical examination it was found that he had developed a weakness, slight but enough to keep him out of the service.

He came back home feeling mighty blue about it and went back at his old business of selling motor cars, and he sold a few along in November. It was in December, when he was thinking of the honors that some of the other boys were getting, that he met an undertaker, who also was feeling blue. Hambuechen thought that an especially sad-faced undertaker was about the only person to whom he owed sympathy, so he sought to console this man. The undertaker told him all of the troubles of an undertaker with his automotive equipment: How long it took to get repairs, how many days this car was out of service, and how many that one was. It was a long, sad tale and Hambuechen listened patiently without trying to cheer the man up.

But he got all of the points and then he investigated. He found that any

undertaker was likely at any time to find himself in the plight of this one, so he mapped out a plan to save the undertakers from themselves, or rather from their automotive equipment.

You see, undertakers had been buying automotive equipment by habit. Their fathers before them had bought mourners' vehicles from specialists, so they did too.

Hambuechen profited by his army experience and laid out his plan of battle, everything except a line of retreat. When he had completed his theory of strategy and had his outposts ready in the shape of acquaintance here and there he called up his artillery and went over the top.

It was not a short struggle and then a few cheers. It was steady pounding, like the trench warfare was for three winters. He was driven back on his first charge and then began a series of raids, stopping once in a while to capture an ordinary outpost that was not held by undertakers.

But finally he came back with a prisoner, in the shape of an undertaker's order. Then he planned bigger raids, and finally he thought he was ready to go over the top again. By this time the outposts he first captured were sending

back reports of service performed. The situation was getting interesting.

His listening posts began to tell him where equipment was laid up here and there, and he struck every time. January showed that he had forced several salients into the enemy's line and that his campaign was self-supporting. He ended about where the Allied army stood last July, with his foe nailed down.

With February came the beginning of the big advance. Orders came fast, and in March they came not only easier but faster. The future must tell its own story, but Hambuechen says that it looks like a complete victory and that the peace terms will soon be handed over to the service shop for fulfillment. He has every confidence in Martin's ability to deliver.

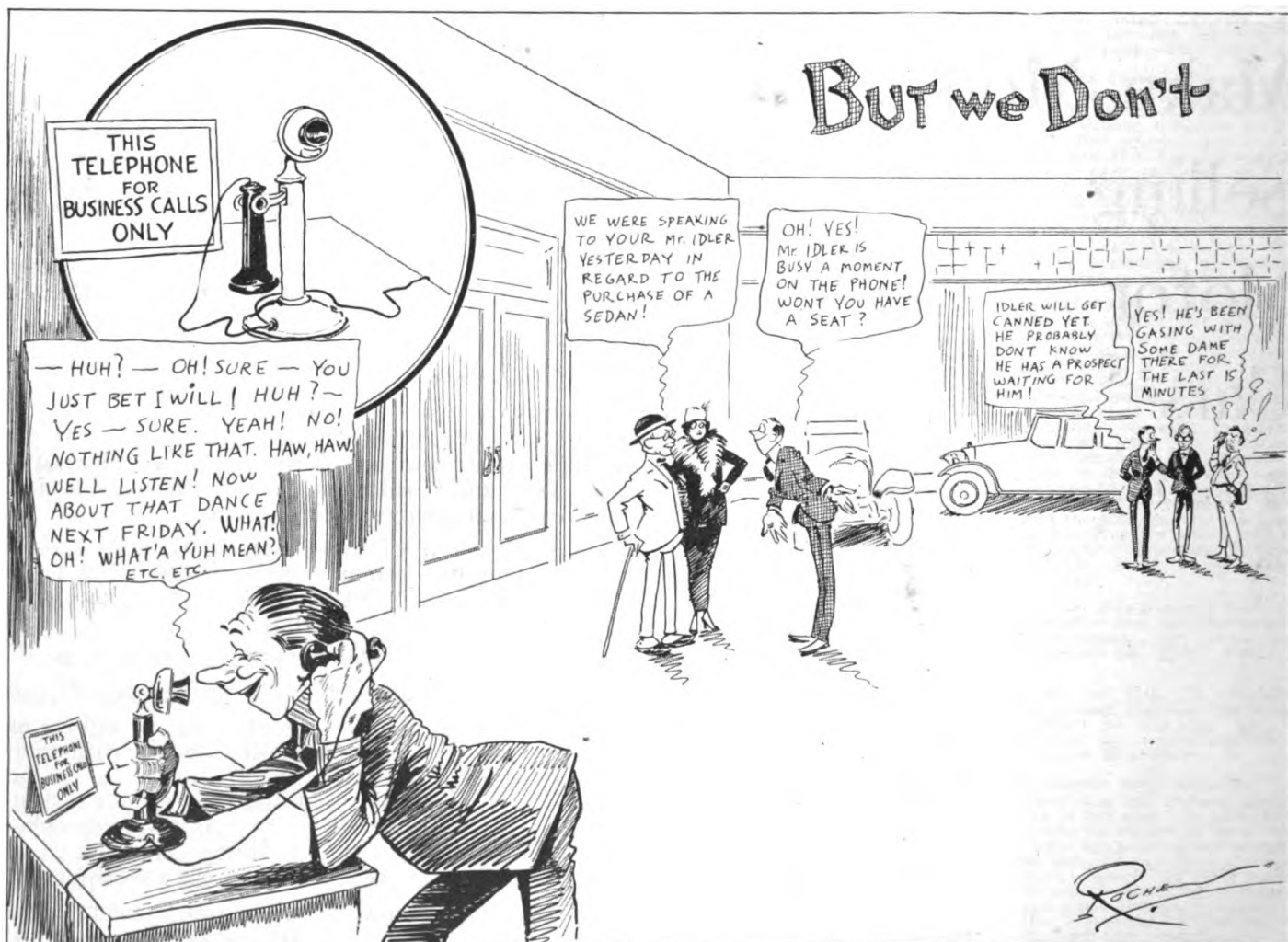
"After this, what? Are you going to sell cars to office prospects again?" I asked him.

"Never, sir," he replied. "I will always plan my campaigns around an idea. I have indications of new ones developing right now and I will bring them on as needed."

The last reports from Hambuechen's remarkable record was that by the middle of April he had exceeded his March record. In March he considerably exceeded the February record.

If We Believed in Signs—

By Roche





WHAT TO SAY  
WHEN THE PROSPECT SAYS:

# "I'm Not Ready to Buy Yet"

**THE SECOND** *in a series of 5 Car Sales Stories*



By Ray W. Sherman

"WE'VE got to get set for tomorrow on the objection of the prospect who says he isn't ready to buy yet," announced Tommy Trumbull. He sat down in the chair alongside the desk of the boss, said boss being C. J. Reilly, of C. J. Reilly, Inc., who scattered Sennett cars in and about Callawassa in a manner that was the envy of the rest of Motor Row.

The house of Reilly was taking the principal objections of prospects as subjects for its sales meetings. At the first meeting they had settled the hash of the prospect who is waiting—or thinks he is waiting—for a drop in prices.

## Must Be Diplomatic

"Well—" and Reilly swiveled around in his chair and put his feet in a drawer. "I know what I'd like to do with 'em, but I suppose we'll have to be diplomats as usual and go at the thing sensibly."

"Young Roper used that price argument on a prospect yesterday and says it worked beautifully," said Tommy.

"Well, then, let's lay a snare for this gent who isn't—or says he isn't—ready to buy yet. Generally I think he's a darned liar, but we can't tell him so."

"I'd like to," drummed Tommy with his pencil.

"Yes, and so would I," replied Reilly. "Of course, in the first place, it is always a good plan to find out, if we can, why the man really is holding off. If the salesman can do this by diplomatic questioning it helps considerably. Sometimes, if the man is just the right sort, the salesman can get the real answer out of him

by asking frankly for the real reason for holding off. The salesman, to this type of man, can explain that, while we are anxious to have the man own a Sennett car, we don't want to annoy him by persistent sales work, and that it will help the situation greatly if we can know the exact situation. Often a prospect will then come right out with a more or less confidential and wholly truthful statement, all of which sets us right as to our future course.

"If it is a matter of money, we can easily square things by pointing out the ease with which time sales can be handled through several available agencies, such as the Motor Securities Co., the prospect's bank, our bank or some other source. Once this situation is explained to a man he generally is willing to forget his financial situation and buy now.

## Selling on Credit

"Many prospects have a sort of idea that they can't buy a car until they have in hand the entire amount necessary to lay down in the deal. They don't realize that the majority of business is done on credit and that credit is the mark of big business rather than small business.

Buying a thing on credit is not a mark of low caste in the world. Quite the contrary is the case.

"If the prospect is waiting for the maturity of a deal, we can't help him make the deal, as a general rule, but we can keep tabs on him and see him at the right time. Also, maybe the deal may not be absolutely necessary for the sale. We must try to ascertain if it is absolutely necessary. If it isn't, we can go ahead and try to make the sale.

## The Big Point

"The big point in the whole idea is that the buyer should not delay. Our big sales pusher this year is the shortage of cars. Show him the list of unfilled orders we have, with the names of the buyers. Show him the number of cars we sold in 1917, our last big year, and also 1918, and then show him how the factory production is running right now in comparison. Show him that we are going to have far from enough Sennetts to supply the demand this year and that as the days go by it will be harder and harder to get them.

"Get a calendar in front of the man and show him what delay means. If you have him in the office, get him up in front of the big calendar. If you are in his office or house, and there is a big wall calendar, use that, because it is more effective. If there is nothing else handy use the calendar in your memorandum book.

"Point out to him where to-day is on the calendar. Then tell him the delay of a week may mean he will

(Continued on page 47)

## The Five Stories in the Series Are:

- 1—"I'll Wait for Lower Prices". (Last Week)
- 2—"I'm Not Ready to Buy Yet". (This Week)
- 3—"My Old Car Is Worth More".. (May 14)
- 4—"Your Price Is Too High"..... (May 21)
- 5—"Your Competitor Cuts Prices".. (May 28)

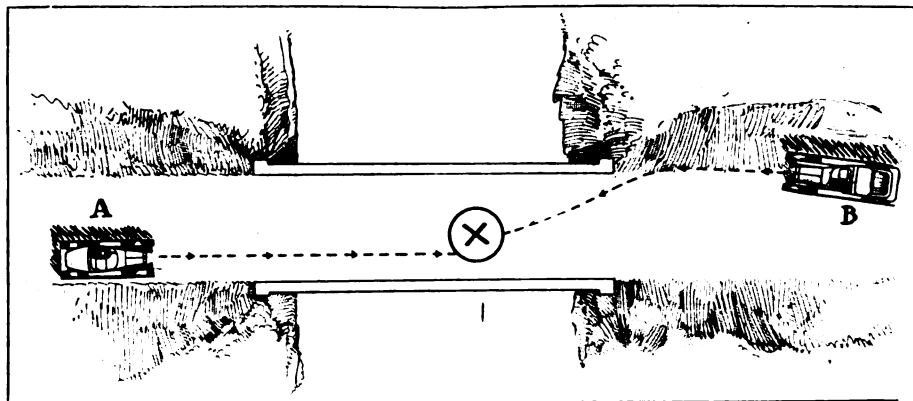


# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*



## WHO WAS RESPONSIBLE FOR THE ACCIDENT?

Editor Motor World: What is the liability in a case like the following: We were driving carefully along the road and came to a narrow bridge. A car being driven at great speed in the other direction hit into a ditch on the other side of the road just before reaching the bridge. In order to get out of the ditch without turning over, the driver put on speed and swung out to the middle of the road suddenly. Before either of us was able to stop, he collided with our car and damaged it.—Subscriber.

**Answer.**—If your car was going along at a lawful rate, keeping on its own side of the road, there should be no question but what you should be able to recover the damages you sustained from the other party. It is simply a case where the one at the greater fault should pay. As you were not at fault at all, there is no reason why you should have to sustain even your own damages. Why not turn the claim over to your local attorney for attention?

## Installment Sales

The Supreme Judicial Court of Massachusetts, in the recently decided case of Russell against Martin, reported in 122 Northeastern Reporter, at page 447, decided that where an automobile truck is hired for a stipulated sum, part cash down, while the remainder is to be paid in installments in accordance with promissory notes given as collateral security, each of which is for the amount of an installment, but title is not to pass until payment of the whole price, the transaction is a conditional sale and not a lease.

The Court further held that in case of a default in the payment of any install-

ment the seller has the right to immediate possession and might, if found desirable, sue on each note as it falls due and still retain title, but cannot sue on the notes or checks where the property is replevined.

## What Guarantees Cover

Charges for tires, tubes, reliners, spark plugs, burning out carbon, adjusting front wheels, grinding valves, etc., are not contemplated by the standard form of warranty used in motor car contracts and a recovery for such amounts expended cannot be made where a counter-claim for breach of warranty is set up in an action for the purchase price by the seller against the buyer, according to the New York Courts.

The car over which the dispute arose was bought March 13, 1918. The buyer gave his note for \$500 in part payment of the purchase price. Thereafter the seller brought suit on the promissory note and the buyer set up a counter-claim for alleged breach of warranty.

The agreement of sale provided:

No agreement, verbal or otherwise, not contained in this order, will be recognized. The guaranty on this sale is that which the factory gives in their published catalog (copy of which is printed on the reverse side of this contract) and the purchaser expressly agrees that no claim will be made except as especially provided for in this contract.

The guarantee clause in the agreement followed the usual form:

We warrant the motor vehicle manufactured by us for one year, this warranty being limited to the furnishing at our factory of such parts of the motor vehicle as shall under normal use and service appear to us to have been defective in material or workmanship. This warranty is limited to the shipment to the purchaser, without charge, except for their return to us at our factory for inspection, such parts as we shall have determined were defective, and provided the

transportation charges for the parts so returned have been prepaid.

We make no warranty whatever in respect to tires, rims, speedometers, etc.

The condition of this warranty is such that if the motor vehicle to which it applies is altered or repaired outside of our factory our liability under the warranty shall cease.

The purchaser understands and agrees that no warranty of the motor vehicle is made or authorized to be made by the company other than that herein before set forth.

The purchaser received the automobile March 16, 1918, and claimed to have had trouble by reason of defects. These, however, were remedied by the seller. Finally, the purchaser claimed that the brake band became loose and he phoned the seller and was told to bring the car in again. He asked when he could get it back and contended that the seller replied: "We cannot tell you anything. We are crowded on account of the war—but we will do the best we can."

The buyer thereupon took the car to a repairshop and had repairs made to the amount of \$367.95, for which he put in a counter-claim.

The Court decided that only \$60.02 could be allowed as a counter-claim because of defects in materials, and that all items for tires, tubes, spark plugs and the like must be disallowed. (Bowman vs. Schultz, 175 N. Y. S. 72.)

## Seize the Car

Editor Motor World: Will you please let us have some information as to the New Jersey lien law in the following case: Some time ago a car owner had repairs made to the amount of \$50. Before his bill was paid, but after the car had been taken from the garage, he assigned it to a creditor.

We know where the car is located and we could take it back under our right of lien, but we are not sure that we have the right to do so under the New Jersey lien law.—Wood Ridge Garage, Wood Ridge, N. J.

**Answer.**—Some months ago I went over the New Jersey lien law very carefully with my New Jersey correspondents. Among the questions we discussed at that time was the following: "Does it make any difference whether a car has been sold or not, or does the garagemen's lien follow the property?"

The opinion of my New Jersey correspondents on this question was that it made no difference who held or bought the car, as under the lien law the lien follows the property. If they are correct in their interpretation of the law, there is no reason why you should not seize this car wherever it may be found under your claim of lien.



# THE FLAT RATE PLAN

## for SELLING SERVICE AND REPAIRS

By Percy E. Chamberlain

### Explanation

This is the last installment on "The Flat Rate Plan," by Percy E. Chamberlain. The first installment appeared in the issue of April 16.

This story tells how a successful dealer took the trouble, grief and money loss out of his service and repairs. He is able to-day to collect bills of \$700 and \$800 without complaints or adjustments. The story is told here for the benefit of other dealers. With this story is a supplement (printed with the April 16 issue) showing the manner in which the forms and records are kept under this plan. Preserve the supplement, and have it in front of you when reading this interesting story. A study of this story may mean thousands of dollars to you. MOTOR WORLD believes this is the most comprehensive and intelligent solution of the service and repairs problem that has ever been worked out. The plan is in operation in the house of the Cadillac Motor Co. of Denver, and the story is told by the Manager, Percy E. Chamberlain, who worked it out.

### THREE PARTS TO THE STORY

This explanation is divided into three distinct parts which the reader should firmly fix in his mind at the start.

**PART ONE**—Covers the preliminary work necessary for the repairshop to do before it can actually prepare and work under an exact **FLAT RATE SCHEDULE OF PRICES**. Since the Flat Rate Price Schedule is based upon the costs of the individual establishment, this preliminary work is absolutely essential.

**PART TWO**—Covers the preparation of the Flat Rate Price List after the preliminary work has been done. It shows how the orders are handled under the system and how averages are kept to prove out the charges.

**PART THREE**—Covers the method of selling repairs under the Flat Rate Plan, the method of making written estimates and of writing the orders. The plan is new to the customers of the repairshop which adopts it and it is vital to the success of the plan that it be constantly **SOLD** in the **RIGHT WAY**.

### PART II—CHAPTER V

*In order to link up this installment with what has preceded, we suggest that the reader get out his last week's copy of MOTOR WORLD and read the last two or three paragraphs.*

IF the final test is O.K., the "finished stub"—Form 13—is torn off and sent to the office, where the invoice—Form 11—is completed by adding the cost of parts and material used, as the form indicates. The remainder of the Information Tag remains on the car until its final delivery, serving to identify it readily when the owner calls for it.

#### Method of Catching Errors

In case any mistake escapes the service office it is returned by the shop foreman for correction. At the same time the nature of the error is noted on the back of the Workman's Order—Form 13. The billing clerk receives this order finally and those which were incorrectly written are laid upon the manager's desk. In this way the service office knows that it will be closely checked up and that errors will reach the manager. Mistakes will be very few and far between if this is followed.

As soon as the order is written the original copy—Form 11—is sent to the billing clerk, where it remains until the job is finished. No additions may be made to the original list of work. If, during the progress of the work, something else is ordered by the customer, the additional work is written in the same way on Form 14, *Additional Order*, with carbon copies—Forms 15 and 16. The charges for the additional work are carried forward as a total to the original invoice and a copy given with it as a memo in the same way as parts charges are shown on the actual invoice.

This prevents the customer carrying the original cost in his mind, in spite of having ordered considerable extra work. It is a psychological fact that, if you give a customer a cost of \$100 originally for his work, he will not take into account that he ordered \$50 worth of additional work later. He will call for his car expecting to pay \$100 and a bill of \$150 will amaze him. You will find that additional orders as shown will segregate each transaction or telephoned order in a way that he will not dispute.

Often some of the operations originally ordered are not performed for one reason or another. In this case they should be shown as a credit against the original order, not simply scratched off the customer's bill. The total of the work ordered should be taken the same

as though it had all been done. Then write the operations not performed in red ink and subtract from the total. In this way there is a permanent record and no cause for complaint later. This also has to do with the psychology of the thing and is very important.

#### One Order for All Departments

In case you have several departments you should cover the work in ALL departments upon the main order. A supplementary order—Form No. 17—on each department for its part of the job notifies them of the work they have to do on cars in the building and provides a separate form which can be O.K.'d upon completion of that part of the work and sent to the office. In this way the billing clerk gradually collects all of the charges against the job and, upon receipt of the finished tag—Form 13—can immediately make up the invoice and have it ready when the customer calls.

This, in brief, outlines a system which has proven more than satisfactory in everyday use in one large establishment. It is not necessary, of course, to follow the forms shown with this explanation. However, if you are to make a success of your repairing business, you must use forms which are intended to carry out principles which are fundamentally correct, both from a business standpoint and for the psychological effect. Any addi-



tions to your general payroll which may be necessary in order to carry out these basic principles must not be looked upon as expense, for *they will return their cost many fold every month.*

### How to Record Flat Rate Time

Every method used for keeping track of time under the original list of operations when you were keeping averages is also used under the Flat Rate Plan, since you must, month by month, keep track of the way the flat rate schedule is working out. Of course, you now have fewer operations and each order shows the price of each flat rate job.

The first thought that occurs to you in connection with putting these prices upon the orders is that your competitors will learn them. There is no valid objection to this. In fact, it is best to post four complete price lists in your shop, typewritten and framed under celluloid, so that they will not become soiled. If your competitor is the right kind of a competitor, he will be glad to see some one getting more for repair work and will quickly follow by keeping his own averages and costs. If he be the wrong kind, he will use your estimates for the purpose of cutting under you, of course. Well, let him. YOU know that he cannot exist under old methods and by cutting under your prices. He may do the work cheaper, but the same old complaints will harass him and it will not take long for owners to realize that, while at your place they pay a little more, *they also get a good deal more.*

Again—if this sort of consideration is to influence us we will never get out of the rut. *Why not stand upon your own feet?* Consider the most prosperous and largest drygoods store in your town! *Does the existence of a price-cutter in a cheap, dirty location affect this drygoods merchant?*

Once more the same fundamentals apply to your business as tend to make or break the merchant in another line. If your policies are right, your work right, your place clean and your employees courteous and you LET THE PEOPLE KNOW these facts through advertising, YOU NEED NOT WORRY.

### The Flat Rate Record

It is necessary, as stated, to prove your flat rate prices, and your Operation Record Book should be continued. However, the method of keeping it must be changed somewhat.

As soon as you have finished your memo cards as shown in Form 9 and have given each operation its number, have an office girl make out new loose leaf pages for the operation Record Book. The headings have to be changed somewhat, as shown on Form 18. Your records come in the same way and are set down the same, except that there will be fewer operation sheets for each car. The makes of cars may be separated by indices if kept in a separate book.

### Cards for Proving Prices

Since you are now performing work for a stated charge and not by the hour, it is necessary for you to keep *very close*

*watch on each operation* in order to find out whether the price *as established by the averages* is followed out when the job is done as a whole. It is hard to do this from the Record Book and almost as hard if you take each month's averages off on a separate sheet of paper.

For this purpose a 4 x 6 card such as shown in Form 19, is very satisfactory. The headings explain themselves and the card shown is filled out to indicate how easily the actual work may be, compared with the flat rate prices and also the charges you would have made under your old per-hour rate of \$1.25. The first columns on the card to the left of the black lines are the totals taken from your Record Book for each month. The columns on the right are the monthly averages secured, of course, by dividing.

It is *not safe* to multiply the numbers of hours by the rate per hour. There will be a difference due to the fact that, under the \$1.25 per-hour charge, you took advantage of the odd cents. The multiplication has been made for each job by the person who keeps the Record Book. The cards—Form 19—should deal with actual totals and actual divisions. It will be seen that by dividing the number of hours into the amount actually collected you will get the rate per hour. *Each month these cards should be carefully scrutinized and prices changed, according to necessity.* Be sure, however, that you have enough jobs under an operation to give you a fair average. The first ten jobs may run high and the next ten run low, but the twenty or twenty-five will average up.

In the illustration, actual records for this operation are shown covering a period of two months. It will be clearly seen that for 67 jobs—or rather for two successive months—the average time per

job was 3.16 hours—3.44 plus 2.89 divided by 2.

At \$1.25 per hour the average collection would have been \$3.98, which is \$1.02 less than the price charged for each job under the flat rate, which was \$5. This seems, at first glance, to be an excessive charge.

However, the cost records of this concern show that it *must average \$1.50 per hour for its productive time*—the proportion of its payroll which is resold to customers. The average time of 3.16 hours, then, multiplied by \$1.50, instead of \$1.25, gives \$4.74. Based upon these averages, *this concern reduced the price of this particular job to \$4.75, beginning with the third month.*

This shows in detail the method of working out flat rate charges as time goes on.

Struggle all of the time for greater efficiency and greater volume, since these two elements are the only ones which will, under normal conditions, allow you to lower prices. Play absolutely fair with the customer. He is at your mercy, since you are technical and he is not. He comes to you for advice, expecting to receive fair treatment. If you find as time goes on you can lower the price of a certain operation, be sure to do so. Just because you have been collecting more than you should is no excuse for continuing to do so. What you can "get away with" is no part of your new business methods. Such things belong to the past. You must be able at all times to take your customers into your confidence and show them your records if that becomes necessary in order to justify a job price or an estimate.

If you have progressed with me, step by step, you are selling repairs on a flat rate schedule of charges and but one important feature of the plan remains to be considered—the *method of selling.*

## Part Three

### SELLING THE FLAT RATE PLAN

**D**O not announce the Flat Rate Schedule until you are sure that your organization is prepared to answer all objections to it. They will be few and have less to do with the plan itself than with the individual prices quoted to the individual customer.

When you do announce it, take advantage of all of the publicity you can get for it.

Mail a letter or folder to each owner.

Use the newspapers.

Follow the original announcement with letters every ten days, hammering home in each letter one or more of the advantages of the plan.

"Tell the world" that you are progressive.

Each individual firm will know how to handle such matters, and they need occupy none of our attention at this time.

Two methods may be said to cover all of the repairing you will sell:

**DIRECT SALES**—These are the sales made, as one might say, "over your

counter." They cover the smaller day-by-day jobs where the owner drives his car in for some minor work and will be required to leave it for an hour or two, or perhaps a day or two.

**ESTIMATED SALES**—These are the bigger jobs upon which you are asked to make an estimate before the work is ordered. Commonly known as "overhauling" jobs, they require from several days to one or two weeks and run into considerable money.

### Direct Sales

It is obviously necessary to put your Flat Rate Price List into some sort of form which will be quickly available for reference by the man or men who meet the customer when he comes in. In the smaller shop a list under glass or celluloid will no doubt serve the purpose. This list should be alphabetically and numerically arranged and will serve a double purpose—to give the customer the price of each job and to indicate to the man who takes the order not only the operation



numbers, but the amount of work included in each. In the larger shops this list should be in the hands of several men, including the service manager and his assistants, trouble shooters and testers, shop foreman, service car men, etc.

In the case of an organization which sells new cars the salesmen should also have the list and learn to sell repairs intelligently. Since these lists will be changed more or less and will have to be instantly available in different parts of the establishment, they should be gotten up in pocket form. They may be put into a loose-leaf form to fit a leather cover, such as is used for factory sales manuals.

A sample page from the printed list is shown in Form 20. The marks before some of the numbers refer to the different kind of operations as outlined heretofore. This list is preceded by a "Key to Price List," which explains these marks clearly.

After the first printing the cost of re-printing sheets upon which changes occur is *very small*. This book can go further than to state prices of repairing. It can give in definite form *all of the prices, policies, more important rules and general information about your firm*. Such an Organization Sales Manual will more than save its cost by preventing misunderstandings and in the added volume of sales it will bring through making *each member of your organization a walking salesman for everything you have to sell*.

Many car owners care nothing about the price. Nevertheless the order should be written just the same as if the customer had waited a moment to find out what the cost of the work he ordered would be. In case of any complaint regarding charges, you have but to explain that, had the owner inquired, he would have been told in advance since you charge the same to everyone for the same work. This is the same as a man walking into a store and ordering a half dozen shirts sent home without inquiring how much they will cost him. *He cannot censure the store for his own lack of forethought.*

#### Estimated Sales

This kind of order is very different from the direct sales order. *It is the source of the repairman's greatest loss under the old system, and one of his best sources of profit under the new, IF HE WILL FAITHFULLY CARRY IT OUT.* Working under it, large bills amounting to from \$300 to \$900 can be collected down to the last penny **WITHOUT A SINGLE ARGUMENT.**

The owner drives in and says that he wishes his car "overhauled." He should be advised that *you do not accept such blanket orders*, the reason being that they leave too many chances for misunderstandings. As a matter of fact, the customer has rather a hazy idea of what he wants done. You should draw him out and learn just what his idea is. Does he want his car put in as near new condition as possible? Or does he simply want it put in good shape to run him another sea-

son without doing all of the things which might be found to be done?

You tell him that, if he will leave his car with you, a competent man will make a list of the work which should be done and that an estimate based upon this diagnosis and giving the exact prices for each part of the work will be furnished. Explain that there is no charge for this estimate any more than a painter will charge him for telling him how much it will cost to paint his house.

#### Diagnosing the Trouble

Having secured the car for this purpose, you should make every move from that moment absolutely definite in character both as to methods of "shooting the trouble" and the manner in which you furnish the written estimate to the owner.

The estimate should be made up by a technical man, and one who is absolutely sold on your method of doing business.

### Study the Forms

The car should be taken out on the road and, from experience, certain defects noted. It should then go into the shop and have a careful inspection. Nothing should be left to guesswork. The nature of the work should be written down in detail, using the shop sheet as shown in Form 21.

Of course it is impossible to tell in all cases just what is wrong with a car until it is torn down. But a man of experience who does the job intelligently will usually arrive at the correct conclusions and be able to make a list of operations needed which will be very definite. During the progress of the work later, an additional order can be secured in case anything else is needed which could not be anticipated.

The labor operations are set down as noted. For each operation the parts necessary to be used as set down on Form 22 and the shop material on one similar to that used for parts. A carbon copy of these two forms is made for retention in the shop in case the order is secured later. By having exact lists of the parts and material covered by the estimate the workmen who finally handle the job will know what parts and material can be used without exceeding the order. The carbon copies made at the time save rewriting later.

The labor operation numbers and prices are *put on with the prices*. In case other departments are conducted, the work ordered in each is estimated, *foremen from those departments being called in while the car is on the floor of the shop*. The list being completed, the Parts and Material Forms are attached and the estimate sent to the stockroom, where the parts as listed are priced, including transportation. The estimate is now complete and is sent to the main office to be copied by the stenographer.

In its final form, ready for the customer, the estimate is listed on Form 23, a carbon copy being made for the files. Note that Form 23 explains everything so clearly that it cannot be misunderstood. If the work is ordered you **GET YOUR MONEY**. Securing the order is often a matter of salesmanship. It is human nature to "shop around." A certain percentage of your estimates will be lost to you. Some may be shown in their entirety to your worst competitor. But again "you should worry!" If you have placed a salesman at the point of contact between your repair department and your customers you will get most of them. Those you lose are better lost, *since some one will lose money on the work.*

In case the work is ordered the regular form is written and the car sent to the shop. Unless your shop works strictly to order, not exceeding same unless it secures additional orders, you should stamp such orders "ESTIMATED" and establish the rule that *nothing additional must be done in such cases without additional authority*. You want your final billing to tally with your original estimate, plus the additional work which may be ordered.

#### Make Estimates Carefully

There is as much difference in making estimates as there is between day and night. There is a form of estimate which is worse than nothing. The kind illustrated here is beyond criticism. Note that each operation goes into details. It does not say "Do this and that IF NEEDED." It *states clearly* what to do and states it in a way which will guide the workmen if they get the order. Note that but one unclassified operation number is used in a \$200 job—Form 21. There is no objection to this inasmuch as there is plenty of time to make the estimate and figure on the odd operation and the foreman must be given some leeway in this respect. The work is done, of course, under the same operations.

In the right-hand columns on the estimate sheet—Form 21—the actual performances on the job are set down after the work has been finished. These come from the Operation Time Sheets—Form 4—the time being multiplied by the rate which you know you must get per hour in order to make your shop pay. Thus you have a direct check on the man who makes your estimates and can call him to task in case he is making prices which do not average up.

The making of estimates in this way is specialty work. It cannot be done by any Tom, Dick and Harry in your establishment. It requires time and careful attention to detail. If properly done, it will outline the actual work so clearly and definitely that the workmen can easily absorb its cost later because they know just what to do and just how to go about it without waste of time. Not only is the work itself outlined but the parts have been numbered, ordered and are on hand for quick delivery. Everything progresses smoothly and the customer, having ordered just what he pays



for, cannot complain at the bill, and WILL NOT.

Let us say that the work has not contemplated touching the rear axle of the car and that nothing is done to it. It happens that the rear axle was quiet and full of oil. After the car has been back in the owner's hands, however, a few weeks the rear axle becomes noisy. WE know what has happened. The gears had reached a point of wear just short of making them grind. The extra mileage after the owner started to drive again added just the wear necessary to make the noise. An adjustment becomes necessary which you did not know about at the time.

Under this plan the owner cannot hold you responsible. *You have but to go to your files to show him that you did not estimate this work, did not do it and that he did not pay for it. He will readily pay for it when he realizes this.*

Under the common practice of "overhauling" a car the owner holds the repairman for anything which happens to it during the next six months. He comes in and says:

"I just had my car overhauled a few weeks ago and now the rear axle grinds like a coffee mill."

Since the owner thought "overhauling" meant *everything* and even if he did not THINK so will not admit that he did not, *you have to make good to him.* Perhaps you make good as a matter of policy, but the loss to you is the same call it by whatever name you will.

#### Estimates on Per-Hour Basis

So far this explanation has not considered the giving of estimates up to the time that you establish your Flat Rate Price List. This can be done without any trouble whatever. In fact, it is very advisable, provided it is handled correctly. The difference must be clearly understood, however, before you start.

If you are working on the per-hour basis your estimates must, of necessity, depend a good deal upon the judgment of the technical man who made up your first list of operations and groups—Form 1. You can make up the estimate in the same way as explained above for Flat Rate estimates, using the group numbers in the left-hand column instead of a single operation number. The estimates for the operations as originally made would be used as the price list.

Suppose you set down five operations, the group numbers of which will be as follows:

GROUP NUMBERS	OPERATION
1-2	.....First operation
2-3-7	.....Second operation
9-11-22-23	.....Third operation
10-11-23-30	.....Fourth operation
18-19-20-23-30-31	.....Fifth operation

Having set down these groups you can quickly see what numbers are repeated. Since each number stands for a definite operation, a repetition of any number means that, because of the way in which the work was ordered, the same operation is listed more than once. You cross out, therefore, all but one of each number, thus:

1-2  
-3-7  
9-11-22-23  
10- - -30  
18-19-20- - -31

In the above groups you eliminate five operations. You now turn to your working list—Form 2—and price each operation. For instance, if No. 1 is 25c. and No. 2 is 50c., you get the first line of your estimate like this:

1-2 First operation.....75c.

For the second line you price only Nos. 3 and 7, since No. 2 has already been priced once.

Going through the list in this way, you can price each item in a very definite way, *knowing that you have not charged the customer twice for anything.* Once the operations are listed this work can be done by an office girl. It is simply a matter of detail.

Since you are going to perform, the work upon the per-hour basis you should be sure that your estimate is high enough. *You can sell a larger figure easier than you can justify, at the time of billing, a figure larger than you have named.* You do not have the opportunity to strike an average as between jobs, as you do on the Flat Rate, since each hour on each job is billed direct.

If your first estimates are liberal you will have little difficulty, but it is very advisable to add an arbitrary percentage to the total labor figure in order to give you a working margin. If the labor totals \$100 and you add 20 per cent the customer will accept an estimate of \$120 just as quickly as he will the \$100 figure. *On the other hand, he will complain bitterly if his bill exceeds his estimate by \$20.*

The actual figures should be carefully compared with the estimate before the bill is presented both to check the man who made the estimate and so that adjustments may be made in advance if any are necessary.

The form in which the estimate is presented to the customer should not, as in the case of Flat Rate Estimates, itemize the charge for the individual operations.

### Study the Forms

The latter should be listed as well as the parts with the total at the bottom of the sheet—the total to cover those particular operations only. A carefully worded letter should accompany each estimate, *leaving no doubt in the customer's mind as to how you propose to handle his work under your estimate and that you undertake to perform only the operations listed. Additional work should be confirmed and added to the original estimate in the billing.*

#### The Credit System

At this late date most up-to-date repairshops have placed themselves upon a cash basis, requiring payment before delivery of the car. Some of the forms used in connection with this explanation

contemplate the cash basis. It is most advisable, especially under the DEFINITE method of transacting your repair business as advocated herein. You are in a position to handle work quickly and efficiently, to settle minor arguments promptly without keeping the customer waiting and to inform him fully in advance of your terms of collection.

However, if you still do a credit business, you will find this DEFINITE way of doing business a big help to collections. *You can go into any court and collect a disputed bill,* since there can be no argument except as to quality of workmanship—and your guarantee fully covers that, you should make this guarantee definite and display it conspicuously as well as printing it upon your invoices. A good form—liberal and yet safeguarding your interests—is shown by Form 24.

#### Service Work

Just a word to the new car dealer whose greatest source of loss has been the "free service" he gives on his new cars. If you wish to contribute a certain amount to the maintenance of the new cars you sell, that is between yourself and your business judgment. As a matter of business, however, you should not make your shop or service department absorb this. In the first place, make the amount of your "free" work absolutely definite and *have your new car salesmen sell each customer on your plan,* whatever it may be.

As this service is delivered to the owner from time to time, perform it under the same kind of work order as you use for any other job, marking the order "NO CHARGE" with the reason "FREE SERVICE." *Charge all of this to your Free Service account on your books,* crediting the shop with its full earnings the same as if the work had been done as a pay job for an ordinary customer.

Free Service and Guarantee are confused in most dealer establishments. Your guarantee should be definite also and thoroughly understood by the purchaser. Claims under it should be charged to the "Guarantee" account in the ledger, *full credit going to the shop for the work in the same way as the Free Service.* Why blame your shop for a loss which belongs to your new car sales? *Stop fooling yourself!* Pull these bugbears out to the light where you can see them and then, if you wish to continue them, you will be doing it *with your eyes open.*

#### Petty Service

Practically every repair business and, more especially, dealers in new cars who maintain repair departments are called upon to do a great deal of free work which is aside from and has nothing to do with their "Free Service" plan. This work consists of carbureter adjustments, inflating tires, draining radiators, putting on curtains and chains, testing and filling batteries, delivering cars, etc.

From a business standpoint this sort of thing can find no justification. When the owner purchases the car he obligates himself to keep his battery filled. If he



**Are there any questions  
you wish to ask? Let's  
have them.**

**Make Money in 1919  
Make More in 1920**

does not wish to do the work himself, he should pay for having it done. However, this fact will not be generally accepted. Because it has always been done it will, no doubt, always be done more or less. However, there should be a ticket for each of these jobs, the charge being taken into an account kept for that purpose. When you find out how much such things are cutting into your profits you will, if you are not afraid to stand upon your own feet, seek means of at least partially eliminating such practices.

Finally, I do not advocate the Flat Rate for quick service jobs when a firm maintains a department for such work. Such jobs, if they come under any of the standard operations, should be charged for as such. But many of them are done at the curb—a twist of the carburetor adjusting screw, the tightening of a couple of loose lugs on the wheel—the thousand and one little troubles which owners have and which are not worth while sending to the repair department proper. *These should be handled on a time basis, since they are outside the usual run of repairing, and cannot be listed completely.*

An automobile service department which keeps several men busy with such work used the Service Department Repair Order shown as Form 25. When the service desk assigns a man to a quick job he is handed one of these tickets. It is stamped in a time clock. The adjustment being finished it is again stamped and the elapsed time shows the charge. The stub is given to the customer as a receipt.

On such jobs the customer would not want to wait while an order was being written in the usual form and there would be no reason for his doing so. No account is kept of the kind of work performed. The ticket serves the three-fold purpose of accounting for the man's time on the time sheet, giving the office a check on same and of giving the customer a quick receipt for a small amount of cash paid.

Most service men dislike to ask a customer for a quarter, feeling that it arouses the suspicion that the money so paid will not be turned into the office. This stub is, in effect, a bill which the service man knows he must account for and which he will readily present as coming from the company and not himself personally. These same tickets are used also for service work done for other departments of the organization, such as

adjustments on Used Cars. The larger portion is filed in the office after being checked and the cash which it represents accounted for.

This explanation has tried to cover rather a large undertaking in as few words as possible and in as logical order as may be, considering that parts of the system affecting different departments go hand in hand and bear upon other parts in such a way as to make it necessary to install them simultaneously. It is to be hoped that it reads as simply, once the idea is grasped, as it actually is in practice once it is installed. The author has worked it out and is using it most successfully and no part of it is untried theory. Everything here advocated is working out in practice every day.

If it serves to recruit even a few repairmen to the Flat Rate standard, it will have justified the time and effort put forth in the telling. For, certainly, *the more individuals in this branch of the automobile trade who place themselves upon a sound and successful basis the more the entire trade will benefit and the sooner will be accomplished that which now seems impossible.*

In attacking your own business for the purpose of making the changes necessary to install the Flat Rate Method of Repairing prepare yourself for opposition. Set yourself against the cries of the pessimistic partner, the derision of the old-timer and the scorn of the competitor. Sustain yourself with the words of Josh Billings, who said:

**"CONSIDER THE POSTAGE  
STAMP, MY SON. ITS USEFUL-  
NESS CONSISTS IN ITS ABIL-  
ITY TO STICK TO ONE THING  
UNTIL IT GETS THERE."**

**NOW**

**Go back and carefully re-  
read the story. Study the  
forms. Make yourself a  
master of the plan.**

**Coming! Coming! Coming!**

## Save Money in Ford Repairing!

**LOWER CHARGES AND MORE PROFIT**

*A complete course in Ford repairing will be conducted in the Better Mechanics Department of Motor World. It will show how to*

**OPERATE** with labor-saving methods and machinery. Weeks of time and hundreds of dollars can be saved by the use of modern methods and machinery. Some of this machinery you already have, but many shop operators have found that there are uses for their machinery that they didn't know about. And often the addition of some small tool will make it possible to perform a series of operations in a way that saves time and money. You can't afford to miss this series—and you should preserve it and have it always available for study by your organization. It will put your shop in position to do work at lower prices and more profit.

The series, beginning June 4, will take up first the Ford power plant. The major subjects in order are:

- I—Ford Power Plant.
- II—Rear assembly.
- III—Front assembly

- IV—Chassis frame and dash.
- V—Body, top and windshield.
- VI—Steering gear.

The Ford Power Plant chapter will be sub-divided as follows:

- 1—Removing the engine from the car.
- 2—Taking down the engine and transmission.
- 3—Testing the crankshaft and reabbing the block.
- 4—Burning in the bearings.
- 5—Reboring the cylinders.
- 6—Aligning connecting rods.
- 7—Refacing valve seats and reaming valve-stem guides.
- 8—Removing carbon and grinding valves.
- 9—Fitting new pistons and piston rings.
- 10—Overhauling the transmission.
- 11—Testing, repairing and overhauling the magneto.
- 12—Assembly of engine and transmission.
- 13—Testing the engine.
- 14—The ignition system.
- 15—The Radiator.
- 16—Gasoline tank, pipe, strainer, muffler, lamps and equipment.
- 17—Replacing the power plant and equipment in the car.

**Coming June 4—Don't Miss the First Story.**

**Make Money in 1919**

**Make More in 1920**



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

### *Using a Turntable*

**Character of business**—Car and accessory sales, service and storage.

**Details wanted**—Lot 48 x 100 ft., east front, south side entrance, two stories with show room, accessory room, stockroom and office; repair shop on second floor.

**Name**—O. B. Burrichter, Monticello, Ia.

**Answer**—Little explanation is required regarding the various details of the plan which we have drawn. It should be pointed out, however, that your building is a little narrow, about 46 ft. net, and therefore you can store only medium or small cars on the second floor with convenience. It is hardly likely, however, that you will have many large cars to store anyhow.

In the event that you do have many large cars or trucks to store these may be placed on the first floor, in which case you should use only two rows of cars instead of three, as shown.

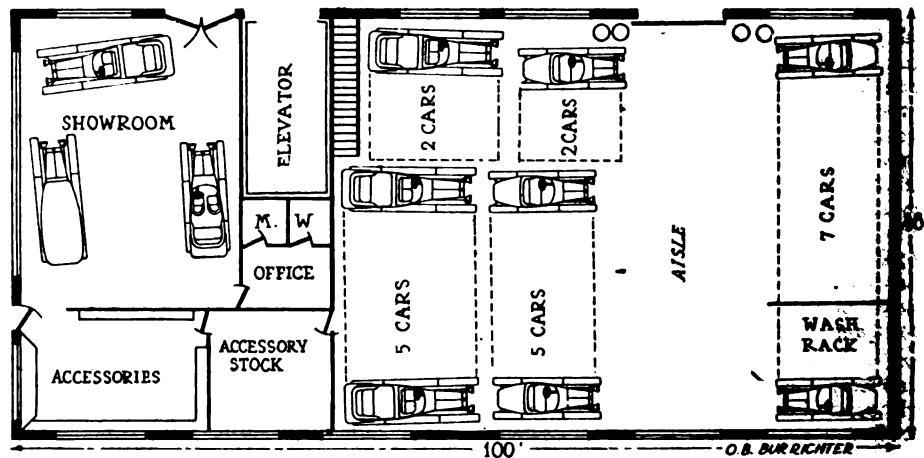
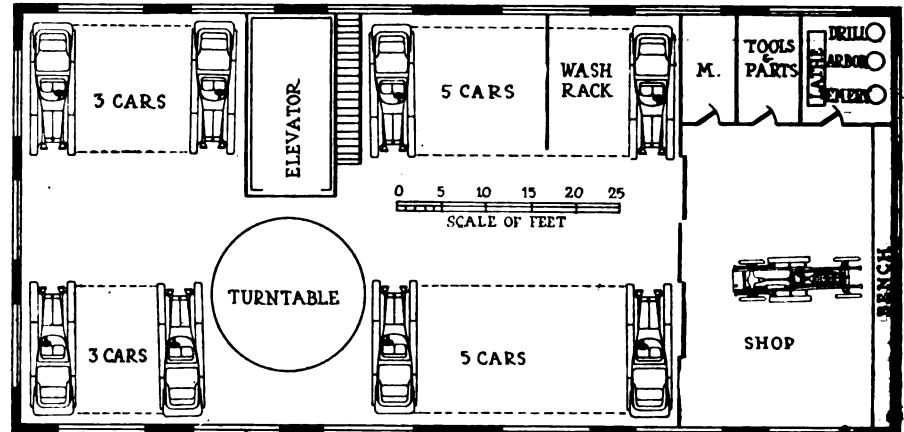
The turntable on the second floor is a convenience, but not a necessity.

### *A Very Narrow Plot*

**Character of business**—Dodge car sales, service, truck sales, accessories.

**Details wanted**—Plot 40 x 135 ft., showroom for one car, accessory show cases, offices, balcony for small stock of parts, shop with capacity of six cars, entrance from front, exit at extreme rear, wash rack, all light from right side and front of building, driveway at left, entrance for cars to showroom.

**Name**—Janesville Automobile Co., Janesville, Wis.



First and second floor plans for O. B. Burrichter

**Answer**—As a rule we object to drawing a plan for so narrow a plot but in this case it has been possible for us to work out quite a satisfactory layout and our only warning is that you be sure that the building does not turn out to be too small for future business.

The showroom is amply large for two cars and yet there is room in the front wing for an accessory store, stock room, office and toilets. The garage accom-

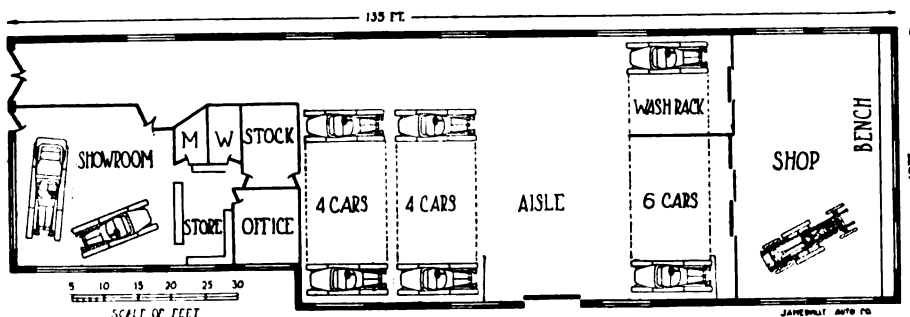
modates fourteen cars and the shop will take six, although this is crowding it so that there will be very little room between them. A half dozen more cars may be parked in the aisle and driveway space of the garage at night.

The exit was not put at the extreme rear as on your sketch because such a position would seriously interfere with any sort of a satisfactory layout.

The accessory stock room was not put on a balcony because there was ample room on the main floor for it and, of course, it is much handier there.

The car entrance to the showroom is placed at an angle so as to facilitate the movement of cars in and out, and even at that it may be necessary to use a turning jack or a caster skid.

It is a pity that you cannot get along without the front driveway, using the alley for entrance to garage and shop and allowing the full frontage to be used for accessory store and showroom. If you change your mind we shall be very glad to draw a plan on this basis.



Plan for a narrow plot for the Janesville Automobile Co.



**Corner Lot 192 x 167 Ft.**

**Character of business**—Storage, service, car sales, accessory sales.

**Details wanted**—Corner lot with 192 ft. on main street and 167 ft. on cross street, ground drops off 8 ft. from front of lot to back and would want to take advantage of this slope to use basement for repair work by having drive to basement at rear off side street and drive to first floor just back of showroom on side street. Showroom, ceiling high enough in showroom so that offices could be arranged over accessory room, toilets, etc.

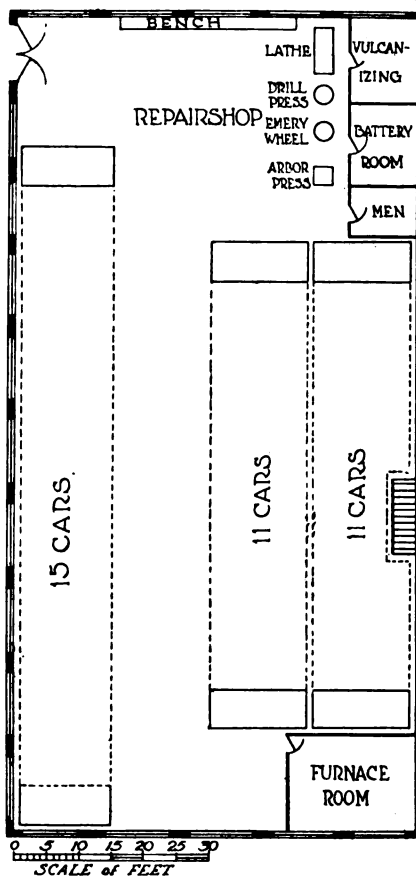
**Name**—W. V. Burnett, Youngstown, Ohio.

**Answer**—Here is a plan that should meet your requirements. We do not advise placing the entrance to the basement floor at the corner as you have indicated and as we have done, following your desire, but we think it better to put the entrance about 30 ft. back so that the repairshop may extend all across the rear of the building. As it is now, the shop is badly broken up.

You were a little indefinite as to what you wanted in the way of an accessory room, but we have made a combination accessory store and stockroom. Instead of having a partition between the showroom and the accessory room, there is a long showcase, directly back of which there are glass cabinets, and back of the glass cabinets are regular shelves which carry the stock. In other words, while it is all in one room and is 50 per cent a stockroom, it is nevertheless a finished store to the observer in the showroom.

We only made the showroom 30 ft. deep as we were afraid you did not appreciate how large a 40 x 60 ft. showroom is; even a 30 x 60 ft. showroom is quite a size.

We shall be glad to answer any further questions. We hope you will keep in touch with us regarding the various problems which come up in connection with your business and we shall be glad to do all we can to aid you.



First floor and basement plans for W. V. Burnett, the showroom occupying the entire width of the front. Entrance to the first floor and basement are both on the side, this being made possible by a slope in the ground

**Two Stories with 100 Ft. Front**

**Character of business**—Storage, service and sales.

**Details wanted**—Two-story building on plot 100 ft. wide by 110 ft. deep, showroom, shop, storage space on both first and second floors, offices, elevator, etc.

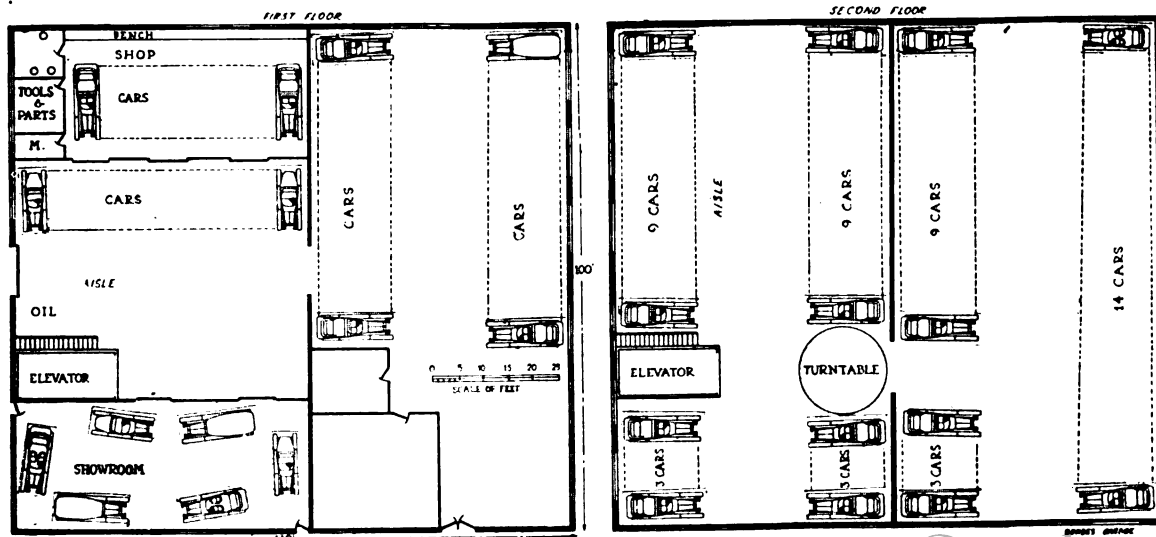
**Name**—Bonde's Garage, Montevideo, Minn.

**Answer**—Your letter states that the space is to be used for offices, but since

we know neither their size nor shape we have shown cars in this space with the suggestion that the car layout be followed insofar as the presence of the office upstairs allows.

We have provided for the side exit you requested. A car enters through the old building, swings around behind the office into the cross aisle in the new building. The space in the aisle should be a driveway in the daytime, but should be used for storing cars at night.

You will note that a turntable is almost a necessity on the second floor.



Plans for first and second floors on lot 110 x 100 ft. for Bonde's Garage. A side exit is provided on the first floor



# Editorial Observation

## Build Now Good Roads

**B**UILD now good roads. All very fine, you may say, but I can't take a pick and shovel and go out and do it myself.

True, you can't, but you can help.

How can I? I'm only a motor car dealer, or a garage operator, or a salesman.

• That's just the reason you CAN help.

Listen:

In Illinois—look at the map—is Quincy. Across the river is a section of prosperous Missouri country, in which one of the nearest towns, about 5 miles away, is Taylor. The road from Taylor to Quincy has been very bad. This has prevented the Quincy merchants tapping this Missouri country.

The result has been that Hannibal, some 20 miles south of Taylor, has been getting the business that Quincy might have got were the Taylor-Quincy road in good condition. For years the Quincy people sat and watched business go to Hannibal because there was no good road over which the Missouri people could get into Quincy.

Hannibal has running to the north a good road to Palmyra, which isn't far from the Taylor section. All of which means business for the Hannibal merchants.

Quincy, the biggest city on the Mississippi River between St. Louis and Davenport, has been stunting its own growth because it didn't provide feeders.

Then one day the merchants woke up. They started a movement and got together with the officials of Marion County, Missouri, and are going to have a road built, even though the road is all in Missouri and Quincy is in Illinois.

When the road is done a stream of motor cars from the section over the river will begin to pour into Quincy. The Quincy stores will sell more goods, the Quincy garages will have more patronage, the industries and enterprises of Quincy will be more prosperous and everybody will be benefited.

And why?

Simply because somebody had foresight enough to **START A MOVEMENT.**

Now—can you or can you not start a movement for good roads about your city?

Perhaps you say: "How is a movement started?"

Here's the way: Turn to the person nearest to you as you read this editorial and say: "Don't you think there ought to be a good road down through such-and-such a section and such-and-such a section?"

Then: "Do you suppose if enough people in this city and the surrounding country got back of it that we could get some roads built?"

Then: If the person to whom you are talking is capable of the job, suggest that you both go to some influential man whom you know, such as the secretary of the Chamber of Commerce, or the president of your trade association, or the president of the bank, or **SOME OTHER MAN** and talk it over with him. **SELL HIM THE IDEA OF GOOD ROADS.**

Then: Get this man to talk with some one. You talk to other people. Get others to talk to others. Then call a luncheon—or do it at the start, perhaps—and let there be formed a little group of **BUSINESS MEN** for the purpose of boosting for good roads. Get clubs and labor unions, sewing circles and churches, newspapers and everybody to talk about good roads. Have them talk about a **SPECIFIC, CERTAIN** road, not just good roads. Name the routes to be improved. If possible, as the campaign grows expand the idea to include more roads. But begin by talking about certain definite routes, just as the Quincy merchants started with the Taylor-Quincy road.

As this movement grows see if the Chamber of Commerce can't promote a mass meeting, get the needed bills introduced and the money appropriated. Keep hammering at it. Let the trade association take an active part.

A chance remark by **ONE MAN** has often resulted in a national campaign or movement. A few conversations by you—actively followed up—should be enough to start a highways agitation that will give you the roads you need.

## Your Association Treasury

**T**HOSE who are members of trade associations should bear in mind the necessity for a strong treasury. If you have a show in your town, don't rebate **ALL** the receipts if you can avoid it. Put some of it in the treasury.

An association without a good treasury is like a man all dressed up and no money to go to the picnic. If you have funds you can do many things that need to be

done. All of which will make the association still stronger.

Any member will cheerfully vote \$100 out of the treasury if you have it and can show a need for its use, when he wouldn't give \$5 of his own money for the same cause.

In organization there is strength, they say. Very true, but if the organization isn't well financed it is far from as strong as it might be.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Those Tractor Laws

*IN Nebraska and North Dakota drastic laws relating to the sale and use of tractors have been passed. These laws have been described in stories in Motor World. Herewith is a statement from Manager Harry G. Moock of the National Automobile Dealers' Association as to the probable status of these laws and action on them:*

**EDITOR** Motor World: The Nebraska tractor law is ridiculous and when attacked in United States Courts will be declared unconstitutional as impairing the obligation of contract.

Suppose a man buys a tractor on a conditional bill of sale, or even pays cash outright—a wild presumption, with such a law to rely on, if it were valid. He has his tractor delivered in the spring and puts in his crops with it. Then he decides he doesn't want to pay for it and sets up as a defense that he had the machine only a reasonable time and that it has not proved "reasonably" fit for the purpose for which it was bought.

No dealer in the United States could survive the onslaughts on his credit that would be possible under such a vicious law. However, though North Dakota has gone Bolshevik, there is still a system of justice administered in the Federal Court which will nullify the effort of the Townley Communists to confiscate property under the guise of law.

### Another Way Might Be Better

As for the companion bill, requiring manufacturers who sell tractors to keep at least one supply depot in the state, the statute is merely trying to limit within state lines something that perhaps should be put in another way altogether.

We realize that a tractor to be useful must have repair parts handy, but why should the legislature of North Dakota say that those repair parts should be kept in Fargo, when as a matter of business expediency it might be possible that they should be kept in Minneapolis? Perhaps they are even more available from Minneapolis to every Dakota dealer than they would be at Fargo or any other Dakota town.

The Dakota situation is valuable, however, for one thing. If dealers ever hesitated over the value of organization for protection it will profit them to digest what has happened to the unorganized dealers of North Dakota. *What has happened there can happen anywhere.* There is but one agency in the automobile dealer trade that is com-

bating these state problems. To-day the burden is placed on tractor men in Dakota. To-morrow it may be on the automobile dealers elsewhere. Unless every line of the automotive industry is organized the whole trade is in peril.

In our opinion the law requiring manufacturers to maintain a replacement depot within the state is unconstitutional as being a restraint on interstate commerce. But we must not allow these restraints to be imposed. The lesson of organization is easily learned and must be applied.—National Automobile Dealers' Association, Harry G. Moock, Business Manager.

### Air Filters for Passenger Cars

**Editor** Motor World: I noticed recently a query as to why air filters had not been installed on passenger automobiles. In response, it was advised that this was an unnecessary complication for there was not enough dust encountered in passenger car use to warrant installation.

Permit me to relate my experiences, which, I believe, will convince you that an air filter is a very necessary adjunct to the modern motor car. Last spring when driveaways were in vogue, I piloted two lots of cars from Detroit to Memphis. The first was an experimental trip with six cars in the convoy, and the second consisted of eighteen. On the arrival at Memphis it was necessary in every case to tighten the main connecting rod bearings, replace the piston pins and their bushings, install new valve guides and valve tappets and guides. The engines were also unduly noisy and an excessive amount of backlash was present in the timing gear system.

There is, in the writer's mind, no other explanation for this excessive wear than the unusual amount of dust that was drawn into the cylinders which acted as an abrasive and cut out the bearing surfaces. As the writer drove the pilot car, he knows that, as at no time during the first 200 miles, did the car speed exceed 15 or 25 m.p.h. for the balance of the journey. In each case the pilot car was in much better condition than the remainder of the cars and this is explained by the fact that, of course, it did not encounter as much dust. It will be argued that driveaway conditions are abnormal, and so they are, but it is also true that the dust taken into the engine of a car over a long period would result in an equal amount of wear. Your comment on the conditions described above will be greatly appreciated.—Schlecht Motor Sales Co.

### Hard to Find the Trouble in This Ford

**Editor** Motor World: One of my customers has a Ford that is a "freak" when it comes to trouble.

After a thorough examination all the mechanics in this part of the country pronounce it O. K. You can crank it up any time you like easy enough and may run 1 to 50 miles as nice as any car you ever saw, and again you may not go 2 miles until it will commence to miss and jerk. It seems that the ignition system is to blame, as it cuts out and in at times. The coil units, timer wires, commutator case and brush are in good shape, perfectly timed, good valves and push rods. Magneto tests strong and even under a running test.

The idea is—sometimes she runs smooth and sometimes she don't. What causes it?—Logan Smith, Round Head, Ohio.

Answer—It is a little bit difficult to

### WHAT ABOUT BUILDING?

Did you delay erecting your new building during the war?

Were materials high?

Was labor high?

Are both just as high as ever?

And do you still need the new building?

If so, are you going to build it?

If not now—when?

What has been the building problem in your town and in particular with YOU?

Readers of "Letters from Readers" in all sections would be glad to know what's what in building in other sections.

What are you going to do?



## "BLOW-OUT!"

By C. H. Stanton Massey\*

Did you ever decide to go out for a ride  
On a Sunday, and take the whole gang?  
And as you're riding along, there's something goes wrong.  
Then you hear a big crash and a bang!

As you look to the right, Oh! what a sweet sight!  
You get out and most naturally swear.  
With the rear tire down, you're ten miles from town.  
And, of course, without any "spare."

But the feeling's the same, in this life's great game,  
As we go drifting from day to day.  
We go gliding along and life seems a song  
Till the time comes when we all must pay.

Now, boys, take a tip, when you start on a trip,  
And you don't know where to or how far:  
You never know when you'll go "flat," so, then,  
Why not keep some "spares" in the car?

\*Foss-Hughes Co., Philadelphia.

tell whether your trouble lies in ignition or some other part of the engine. It is rather hard to diagnose engine troubles from a distance, especially if we do not have all the evidence that we desire. We will give you a list of things which might possibly be the matter, and if you will test these out perhaps you can come to a solution of the difficulty.

If your ignition is at fault, the trouble which you have named might be due to trouble in the timer. If the timer is gummed up with old grease or oil or some other substance and the spring action is not positive enough to keep the roller on the contact, then the roller may skip some of the contacts or perhaps all of them at certain times, and in this way cause one or more of the cylinders to miss and cause the thumping action which you mention.

### Sources of Trouble

On the other hand, the trouble may be caused by a loose connection or broken wire in some part of the ignition system. One wire can very well be broken inside of the insulation where it is impossible to see it, but this can usually be checked up by careful going over and the broken place will be plainly evidenced by being very flexible. Sometimes the broken wires just touch each other inside the insulation, and under certain conditions of heat or vibration the ends pull apart and make an open circuit in the system, thus causing missing.

Another very common fault which produces this jumping is a dirty magneto contact. In order to clean a magneto contact the three small screws are removed from the contact, these screws being the ones that hold the contact down to the transmission cover. This contact will lift right out and the contact point should be cleaned off with gasoline or kerosene and also the small contact which is inside the case. The contact is then put back in place and screwed on and the wire attached and tightened up.

A broken connection in the magneto

## Sign Your Letters

*Letters from readers must be signed, although the names will not be printed if the request is made. One perfectly good letter has gone into the waste basket this week because it lacked a signature.*

coil may also produce this effect which you mention, because the ends of the wires may just touch each other and when the engine gets heated up the wires may pull apart. This, of course, can only be ascertained by testing or inspection.

It is quite possible that your trouble is not in the ignition system at all, but lies in the line of compression under certain conditions. As you are a Ford repairman, you no doubt know if one of the valves is very leaky the car will jump more or less like a grasshopper, and it may very well be that one or more of the valves in the car you mention are so warped that they hold the compression while the engine is cold, but when the engine heats up the valves take on a warp which prevents them from seating and consequently much compression is lost, so that no power is developed when this particular cylinder fires. It may also be possible that the seat is

warped. These defects can be remedied respectively by the insertion of new valves or the reaming of the seats.—Editor.

## Correcting Endplaying Ford Crankshaft

Editor Motor World: In your issue of Feb. 12th the question was asked how to take the end thrust out of a Ford crankshaft when the main bearings become worn. This can be done with a 1½-lb. soldering copper and a little high speed babbitt. Build the bearing up with a hot soldering copper and babbitt and scrape it down till it gives the magnets the proper clearance. The question was also asked what makes an old Ford burn out bulbs when it did not did so previously. Endplay in crankshaft will cause this. The magneto gets too close to coils and raises voltage too high at high speed of engine. The babbitt and soldering copper will also stop this trouble.—C. L. McKee, Dolores, Colo.

## No Tax on Keystone

Editor Motor World: Through an error in the April issue of the Tire Rate Book, the line "There will be no war tax charge added" was omitted from the pages containing price lists for Keystone, Batavia and National speedway tires. Therefore we ask you to print this little notice to direct attention to the tire trade that the price lists of these three tires printed in the April issue have already absorbed the war tax.—Keystone Tire & Rubber Company, Louis Rosenberg, Director of Sales and Advertising.

## Firestone Employees Meet and Eat

BOSTON, May 1—Because of their loyalty in doing the work of the men who were off to the war, the women connected with the New England branch of the Firestone Tire & Rubber Co. here were last week guests for the first time at the annual spring dinner. The affair followed a two days' conference of salesmen traveling through the New England district, which was called by J. E. Mayle and C. B. Lindman, the two officials sent here recently to take over the management of the Boston and New England branches. At the dinner there were more than 100 present, and moving pictures were shown of scenes at the big Firestone factory. This was followed by dancing.

## Most Instructive and Constructive

Editor Motor World: I just finished reading the wonderful issue of April 16 of Motor World. I cannot permit this issue to pass unnoticed.

This issue contains the most instructive and constructive information I have ever had the pleasure of reading pertaining to the automobile business. You are certainly entitled to the highest words of praise and thanks, in my opinion, by the entire automobile industry of the United States.—De Luxe Automobile Company, Phil H. Brockman, St. Louis.



*A Department of*  
**BETTER MECHANICS**  
*No. 103*

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

# Best Maintenance Methods For Dodge Brothers Cars

## *Service Station Ideas for Speed and Economy*

### REMOVAL OF POWER PLANT

1—Jack up front end of engine slightly and block it up securely in this position. *Do not place jack under the oil pump.*

2—Remove radiator.

### REMOVAL OF RADIATOR

3—Loosen lock nut at dash end of radiator brace rod.

4—Unscrew rod from radiator shell.

5—Break top and bottom radiator hose connections at engine.

6—Unscrew two nuts anchoring radiator to frame cross member. These nuts are reached from below through holes in the lower flange of the cross member.

7—Remove the three studs which hold the flanged member through which the starting crank is inserted. This member is located in the cross frame member which supports the radiator.

8—Remove the flanged member and the ball joint which acts as the front motor support. This is only a slip fit, no puller being necessary.

9—Take out the two bolts, one in each motor arm.

10—Unbolt the halves of the universal housing.

11—Break the universal joint.

12—Remove gearshift and emergency brake lever.

13—Disconnect speedometer drive cable at lower end where it goes into the gearbox.

14—Remove clutch pedal.

15—Disconnect brake pedal from its rod by removing clevis pin from yoke end on end of rod, and allow pedal to drop to the rear, clear of the dash.

16—Remove vacuum tank where it bolts to the cylinder head studs.

17—Disconnect the vacuum suction pipe at the carburetor.

18—Disconnect the feed pipe from main tank to vacuum tank at the vacuum tank.

19—Disconnect fuel feed pipe to carburetor at the carburetor.

20—Disconnect the throttle connection at the carburetor and break the choke connection at the carburetor.

21—Remove starter-generator cable at starter generator but first render this circuit dead by breaking connection at the battery.

22—Disconnect wire from switch to spark coil at latter point.

23—Remove pan on each side of the engine extending between frame and crankcase.

24—Break oil line running from check valve directly in front of water pump to dash. Break this connection at lower union.

25—Disconnect exhaust pipe at manifold and muffler, and lift out.

26—Place tackle around engine and slide engine to rear 3 in. to allow front motor support to come clear of front frame cross member.

27—Swing engine at an angle to allow rear arms to come clear of channel frame, and lift power plant out.

### REMOVAL OF CLUTCH AND GEAR-BOX

1—Break universal.

2—Drop emergency brake rod.

3—Remove exhaust pipe completely.

4—Block up engine at rear just in front of the bell flywheel housing.

5—Remove bolts in rear motor arms.

6—Remove bolts holding bell housing flange to crankcase.

7—Drop foot brake rod.

8—Disconnect flexible greasecup tube

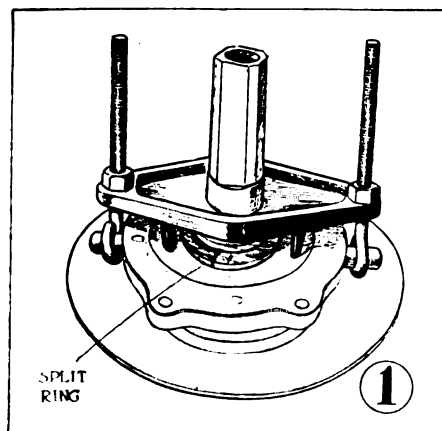


Fig. 1—Clutch puller used to complete clutch disassembly

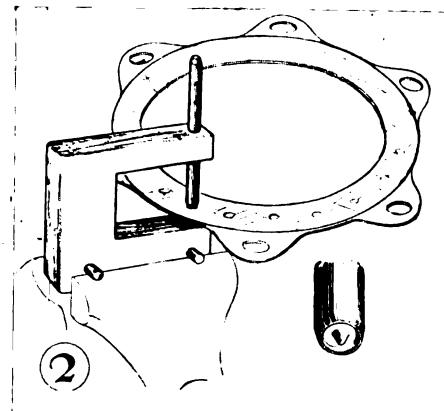


Fig. 2—Clutch riveter, which is put in a vise to prevent slipping



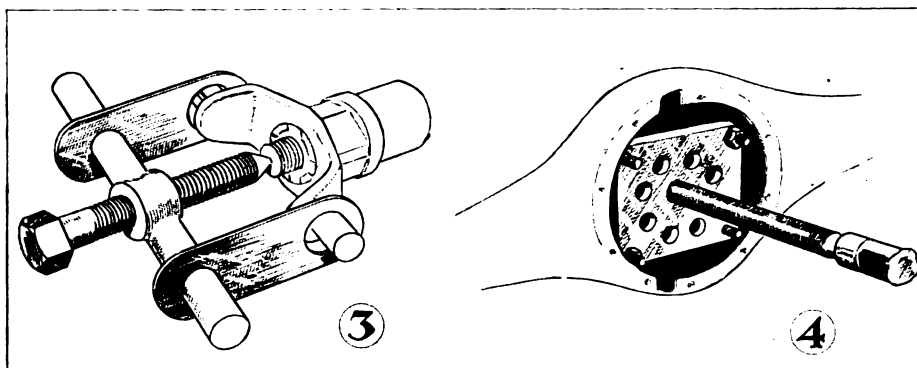


Fig. 3—Puller for front half of universal joint. Fig. 4—To remove the drive pinion, a plate is bolted to the four studs and pressure applied to the shaft

running from floor board to clutch throwout.

9—Slide unit to the rear and lift out.

### CLUTCH DISASSEMBLY

1—Remove two lock screws in clutch throw-out yoke (visible from clutch hand hole).

2—Remove two nuts on clutch throw-out yoke.

3—Remove clutch pedal from its shaft and loosen brake pedal.

4—Drive out clutch shaft to the left.

5—Lift out clutch unit.

6—Apply clutch puller, Fig. 1, to complete clutch disassembly. The puller consists of a cross member with a bolt terminating in a hook perpendicularly placed at each extremity. The hooks engage pins on the clutch.

7—Draw down on puller nuts until the clutch spring is sufficiently compressed so that the split locking ring may be withdrawn.

8—Remove split locking ring.

9—Ease up on puller nuts, and then remove clutch spring.

10—Clutch plates may now be taken apart.

### REMOVAL OF CLUTCH ENDPLAY

1—When pressure is applied to the clutch pedal, the tendency is for the complete unit to be forced backward. This thrust is resisted by fibre washers in the spigot hole where the clutch shaft and the mainshaft of the gearbox fit together. Excessive play will prevent proper release of the clutch when pedal is depressed.

2—The correct number of washers required in the spigot hole must be determined before the clutch is disassembled. This is done by removing clutch inspection plate and working the clutch pedal. Note what distance the clutch unit moves back when pressure is applied to the pedal and then when the clutch is taken apart, add washers or rather disks of sufficient thickness to compensate for this lost motion. Practically all lost motion should be removed. If too few disks are inserted the clutch will slip and if too many it may drag or not release at all.

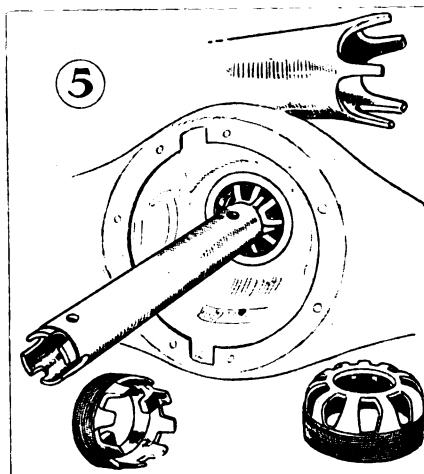


Fig. 5—Wrench made from a piece of pipe for removing front bearing adjusting ring carrying bevel pinion bearings

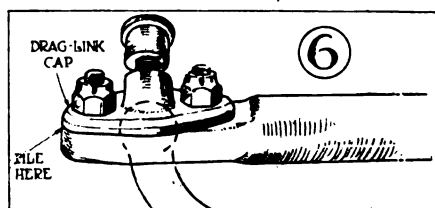


Fig. 6—The drag-link cap is filed to give adjustment

### CLUTCH REFACING

1—Clutch refacing is a simple matter. The facing comes already cut and drilled so that it is merely a matter of riveting the new facing in place. Hollow rivets are used. A special tool, Fig. 2, is employed. The body of the tool consists of a small slab of steel about  $\frac{3}{4}$  in. thick and roughly C shaped. The rivet anvil is a hardened piece of steel pinned in place. The hammer or punch is made from an old valve stem and is also hardened. The tool is put in a vise, the two pins A serving to prevent the tool from slipping as repeated blows are applied to the rivet set. A clutch facing may be riveted with great rapidity with this tool.

In putting in rivets half of them should face one way and alternate ones in the opposite direction.

This tool may also be used for riveting brake lining.

### UNIVERSAL JOINT REMOVAL

1—Take out nuts holding halves of housing flange together.

2—Unbolt the two halves of the universal.

3—The front half of the universal may be removed from the mainshaft of the gearbox by using the puller, Fig. 3.

### REMOVAL OF GEARBOX

1—Remove top plate with levers.

2—Remove four bolts carrying the front half of the universal.

3—Pull universal off.

4—Remove four studs inside of universal housing.

5—Pull out main shaft.

6—Remove reverse idler. This gear is carried in a plate which is bolted to the left side of the gearbox.

7—Remove pin and bolt holding countershaft at rear end.

8—Pull out countershaft.

### REAR END REMOVAL

1—Block up rear end of car securely.

2—Break universal joint.

3—Break emergency and foot brake rods at equalizers.

4—Remove four spring clips.

5—Pull rear end out.

If grease leaks out at rear wheels, the housing is too full. Five pints is sufficient.

### DISASSEMBLY OF DIFFERENTIAL

1—Remove axle shafts by unbolting hub flanges.

2—Take off large inspection plate exposing differential.

3—Take off caps holding Timken bearings and lift unit out.

4—Remove cotter pins and nuts on the four studs which hold differential unit together and disassembly is completed.

### BEVEL PINION REMOVAL

1—Remove axle shafts.

2—Remove wheels. First loosen lock screws on split nuts which hold wheel bearings in place, then remove nuts.

3—Drive brake housing over sufficiently so that cross brake shafts clear torque tube housing.

4—Remove nuts holding torque tube to axle housing and lift out torque tube, drive shaft and bevel pinion complete.

5—Remove locknut holding pinion in place and pull pinion off.

### TO REMOVE DRIVESHAFT

1—By the use of a special tool, Fig. 4, the driveshaft may be forced to the front. The tool consists of a plate which is bolted in place on the four studs which hold the bearing caps. A screw through the center of this plate applies pressure to the pinion end of the drive shaft. This tool may also be used for driving the shaft out of the pinion in case difficulty is experienced in removing the pinion.

### PINION ADJUSTMENT.

1—Remove small plate located on torque tube directly behind bevel pinion.



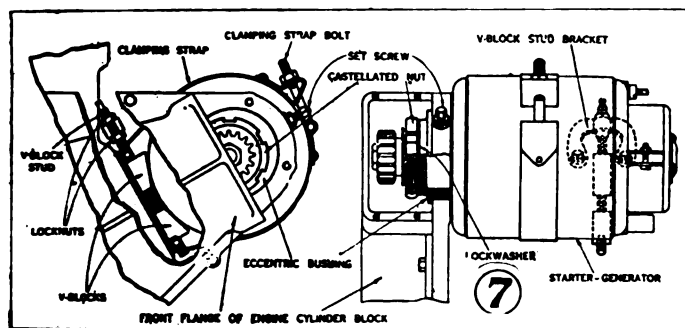


Fig. 7—Diagram showing adjustment of generator chain

2—Two serrated collars will be observed through this hole.

3—To set up on bevel pinion, back off on front collar by turning it to the left, then take up on rear collar by turning to left until bevel pinion is correctly meshed. Finally turn front collar to right to remove any excess lost motion in the bearings.

#### REMOVAL OF COLLARS

1—The rear collar is removed by turning to the left with the aid of a screw-driver or punch.

2—A special wrench, Fig. 5, which will fit the serrations in the front collar must be made to remove it. Such a wrench can be made of a piece of pipe.

#### REMOVAL OF BRAKES, EXTERNAL

- 1—Remove drive shafts.
- 2—Remove wheels.
- 3—Remove anchor pin at rear and at top of external brake.
- 4—Remove clevis pin on brake lever.
- 5—Remove wing adjusting nut.

#### REMOVAL OF BRAKES, INTERNAL

- 1—Remove cotters on rear shoe support.
- 2—Remove cotters on clearance springs, top and bottom.
- 3—Remove main clevis pin on toggle mechanism.
- 4—Slide drum back and pull it out.

#### STEERING GEAR REMOVAL

- 1—Remove steering drop arm.
- 2—Loosen coupling at base of steering post, driving it up clear of the joint.
- 3—Loosen 2 nuts holding housing to frame.

#### STEERING GEAR DISASSEMBLY

- 1—Loosen lock screw at top end of case.
- 2—Remove adjusting nut at top of case.
- 3—Lift worm out.
- 4—Remove plate on side of case.
- 5—Lift out worm gear and shaft.

#### STEERING ADJUSTMENT

- 1—Endwise lost motion in gear shaft removed by adjusting lock nut and set screw on plate on steering gear.
- 2—End motion in worm removed by nut at top end of steering gear case, turning it to right to reduce play.

#### DRAG LINK ADJUSTMENT

- 1—Rear end of drag link has usual

castellated nut. Turn nut up to right to reduce play.

2—To remove play in front ball joint of drag link, take off cap, Fig. 6, and file sufficient off of its surface to eliminate objectionable play.

#### CYLINDER HEAD REMOVAL

1—Drain radiator by opening petcock below water pump.

2—Break upper hose connection at engine end.

3—Remove cylinder head nuts, leaving vacuum tank in place.

4—When applying gasket preparatory to head replacement smear both sides carefully with a thin coat of cup grease. This prolongs the life of the gasket and prevents the sticking of the head next time it is removed.

5—Tighten head nuts little by little so that pressure will be applied evenly all over.

6—After engine has run about 15 min. give nuts their final tightening. Head

6—Pull pump out.

7—Put pan back.

8—Put pump back using wrapping paper gaskets on both faces of pump housing.

#### OIL ADJUSTMENT

1—Oil Gage on dash should show pressure of 2 to 4 lb. at 20 m.p.h.

2—If pressure is too low or too high and investigation shows that adjustment is required, then remove springs in bypass located directly in front of the water pump, stretching it for more pressure or cutting it off to give less pressure.

#### OIL STRAINER CARE

The oil strainer is located in the forward end of the bottom of the oil pan. It covers the entrance to the tube through which the oil pump draws its supply, straining the oil before it can be pumped to the working parts of the engine. If, with plenty of oil in the oil pan, there is no indication of oil pressure on the oil gage when the car is running 15 to 25 m.p.h., or when the clutch is thrown out and the engine accelerated, the strainer should be removed and cleaned. This can be done by disconnecting the oil feed tube, removing the two cap screws which hold the strainer flange in place and draining the oil.

If there is still no indication of oil pressure the oil feed tubes, oil pump or oil feed pipe inside of the cylinder block

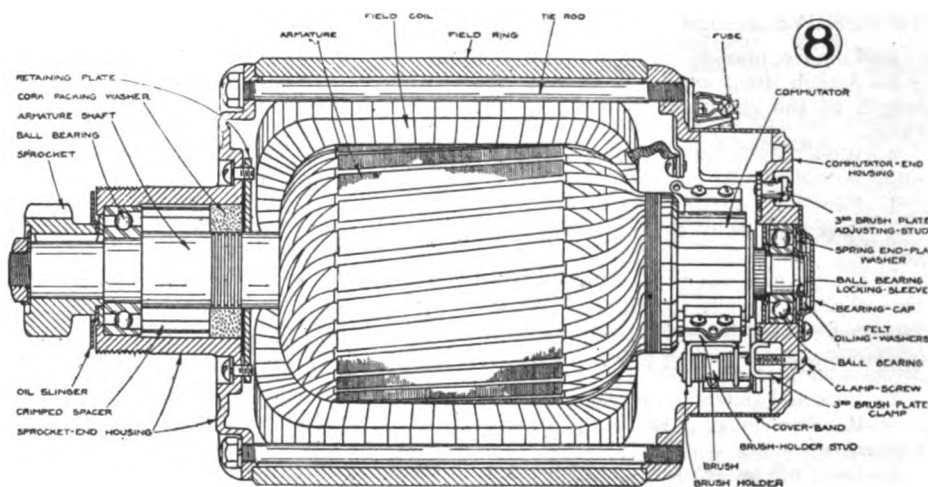


Fig. 8—Section of generator, showing construction

should not leak if surfaces are clean, and gasket is neither old nor damaged.

#### OIL PAN REMOVAL

1—Remove nuts holding pan to crankcase.

2—Remove two studs in front of fly-wheel housing.

3—Break two oil connections at oil pump.

4—Before replacing pan, remove oil pump, replacing pan without pump, applying pump after pan is in place.

5—Remove two screws holding pump housing to pan.

is clogged. Inspect the oil pump and the oil feed tubes, then the pump. Finally blow out the oil feed pipe inside the cylinder block with compressed air.

When old oil is drained out and fresh added, and the gage does not register, priming may be necessary. Remove the ball check valve and spring and pour oil down the tube. The spring and the ball may be readily removed by use of a magnet and a nail. The nail is placed against the ball and the magnet against the nail.

To determine whether oil is flowing through feed pipe inside crankcase when



gage does not work, it is best first to remove oil inspection plug just beyond the lower rear corner of the rear valve cover plate. If oil spurts out at this point with engine running it shows that trouble is in the gage.

#### CAMSHAFT REMOVAL

- 1—Remove radiator.
- 2—Remove ignition unit.
- 3—Remove two studs holding plate which holds camshaft thrust plug.
- 4—Remove water pump and its driving gear and housing as a unit.
- 5—Remove fan.
- 6—Block up engine.
- 7—Remove upper half of timing gear case. (See instructions for removing engine in order to remove starting crank bearing.)
- 8—Remove starter chain, breaking it at the master link.
- 9—Drive pin out of crankshaft.
- 10—Pull off oil pump gear and starting drive gear together.
- 11—Remove valves and tie push rods away from cams.
- 12—Pull out camshaft.

#### STARTER CHAIN REMOVAL AND REPLACEMENT

- 1—Remove housing enclosing starter-generator pinion.
- 2—Turn engine over until master link is exposed.
- 3—Break master link and attach both ends of new chain to old chain.
- 4—Crank engine over until new chain is in place, when old one may be removed and master link of new chain closed.
- 5—Adjust chain.

#### TO REMOVE A LINK

- 1—Remove master link.
- 2—Attach two ends of a wire the length of the chain to each end of the chain.
- 3—Wind chain off, leaving wire in place.
- 4—Remove link.
- 5—Replace chain by reversing procedure.

If the oil pan has been removed, then the chain may be reached with the fingers from beneath, and thus removed.

#### ADJUSTMENT OF CHAIN

- 1—Loosen band holding generator.
- 2—Remove housing enclosing starter-generator pinion.
- 3—Break off on set screw which sticks out through side of case.
- 4—Lift up tongues on lock washer.
- 5—Loosen lock nut.
- 6—Turn eccentric nut one way or the other until slap in chain is reduced to  $\frac{1}{2}$  in. *If chain is adjusted too tightly it will hum.*
- 7—Tighten set screw and lock it.
- 8—Tighten locknut and lock it by turning lock washer tongues into serrations in its periphery.
- 9—Adjust wedge blocks on crankcase until they are just in contact with starter-generator.
- 10—Tighten band holding starter-generator.

Whenever oil pan is removed it is wise

to look for play in the starter-generator drive sprocket on the crankshaft.

#### REMOVAL OF GENERATOR

- 1—Remove pinion housing of starter-generator.
- 2—Break starter chain, wiring the two ends together after the pinion is free of them.
- 3—Remove eccentric lock screw.
- 4—Remove starter-generator band.
- 5—Pull starter-generator out with eccentric lock nut and gear in place.

#### REMOVAL OF ARMATURE

- 1—Remove four nuts on sprocket end of generator and pull plate off with armature.
- 2—Undo pinion sprocket nut and pull pinion off.
- 3—Remove bearing back of sprocket, which comes off when the armature is driven out of the plate. The front armature bearing is lubricated automatically from the chain.

#### THIRD BRUSH ADJUSTMENT

- 1—Turn screw in rear of generator just below fuse in anti-clockwise direction for greater charging rate.

#### CONDENSER REMOVAL

1—Condenser is located in the breaker box of the ignition unit; unloosen wires connecting it at either end and take off two nuts underneath, when it can be lifted out.

#### COIL REMOVAL

1—Undo nut on underside of coil housing, disconnect wiring and lift coil out.

#### CARBURETER CARE

1—To clean metering pin, undo bottom nut on carbureter, withdraw pin and wipe it off with a rag soaked in hydrochloric acid.

2—If air valve sticks, the air valve stem may be dirty. Remove carbureter, remove mixing chamber and bottom flange. Use forked tool for holding dash pot end of valve against turning, while a wrench is applied to the upper end and the two parts of the valve unscrewed. When apart, wipe stem or neck of air valve which slides in a guide in the body of the carbureter with a rag moistened with hydrochloric acid.

3—There is only one adjustment on the carbureter and that is on the metering pin. Turn knurled screw down for a richer mixture.

## SHOOTING TROUBLES

Save your back issues of Motor World because inquiries are frequently answered by reference to a previous issue

#### A Leaky Carbureter

Editor Motor World: We have a 1918 Briscoe. The carbureter leaks when the car is not in use, unless turned off. We are compelled to stop the engine in order to adjust.—Harold S. Brown & Co., Plant City, Fla.

Answer—There were four different carbureters fitted to the 1918 Briscoe car, and unless we know which particular carbureter is on your car we cannot give you definite instructions as to correcting the difficulty. The different carbureters that were fitted are the Buick, Maycr, Carter Model F. O. and Carter Model L.

If you will consult the instruction book that came with the car, you will find pictures of the different makes of carbureters, and you will be able to identify the makes from these pictures provided there are no name plates on the carbureter.

Regardless of what make of carbureter is on the car the leaking that you speak of is caused by the float valve not seating or by improper float adjustment.

If the float valve does not seat there is either dirt on the seat or either the float valve or the seat is scored or marked so that the valve does not come down tight and shut off the flow of gasoline. If the float is set too high, this will make the level of the gasoline in the float chamber too high and it will run out of the fuel nozzle at all times whether the

car is standing or running. This will give a poor mixture while running and it will be almost impossible to get a good mixture at all speeds. The float valve should be adjusted so that the level of the gasoline is from one-quarter to three-eighths of an inch below the fuel nozzle. It looks very much as if this possibly is your trouble, because you speak of having to do a lot of adjusting on the road. If the float valve were properly adjusted so that the gasoline level were correct, it should not be necessary to do so much adjusting.—Editor.

#### Adjusting Carbureter for High Altitude

Editor Motor World: Will you please tell me how to adjust a carbureter from a low to a high altitude?—J. B. McFall, Eugene, Ore.

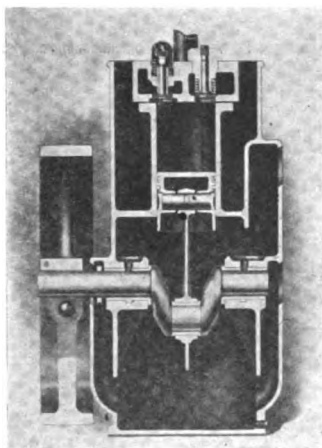
Answer—Unless there is quite a considerable difference in altitude, there should not be any necessity of change in the adjustment of the carbureter. At higher altitudes the atmosphere is not so dense, consequently there is not as much oxygen in a cubic inch as there would be at a lower level, where the air is more compressed. With the decreased amount of oxygen it is necessary to decrease the gasoline at the needle valve slightly to compensate for this. Unless the difference in altitude is very great, the adjustment would be very slight.—Editor.



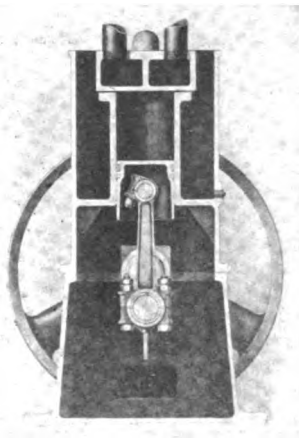
# Automotive Equipment

## IMPERIAL 14 AIR COMPRESSOR

This is an air compressor of the vertical type for belt drive. Made in four sizes, with capacity from 3 to 45 cu. ft. per minute, at pressures to 100 lb. A pressure of 200 lb. can be obtained provided more power be used. The smaller size has a ribbed cylinder for air cooling, the larger sizes employing reservoir jackets. When driven from a line shaft, tight and loose pulleys are supplied. Where the use of an independent motor is planned, they are ordinarily furnished as a unit complete with motor, belt and short-drive attachments. A hardwood base plate is included with the standard equipment.—Ingersoll-Rand Co., 11 Broadway, New York City.



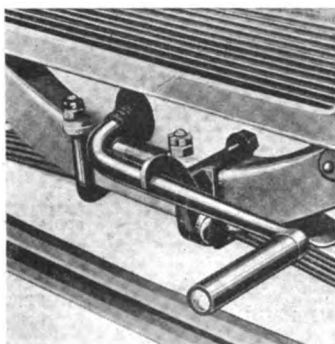
Imperial Air Compressor



The wheels are equipped with Baker rims, straight side type. The size is 34 x 4½. All that is necessary is to change the hubs, the purchaser buying the pneumatic tires. Price \$38, including two wheels, one spare rim, 12 new hub-flange bolts and one socket wrench.—Baker Rim & Auto Supply Co., Inc., 250 West Fifty-fourth Street, New York City.

## SECURITY AUTO THEFT-SIGNAL

This is a clamp which is locked around the tire and rim of the car. The outer end of the clamp is pointed and extends about 3 in. beyond the tire so that while it is perfectly possible to move the car in case of necessity, any attempt to run the car will result in a very noticeable bouncing of the wheel to which the signal is attached. As the manufacturer offers a reward of \$100 for the arrest and conviction of anyone stealing a car equipped with this device, and this is plainly noted on the device, detection of the thief is quite easy. Made in sizes to fit tires from 3 to 5 in., prices ranging from \$7 to \$12.—Miller-Chapman Co., 1047 West Sixteenth Street, Los Angeles, Cal.



Ketch-A-Kick



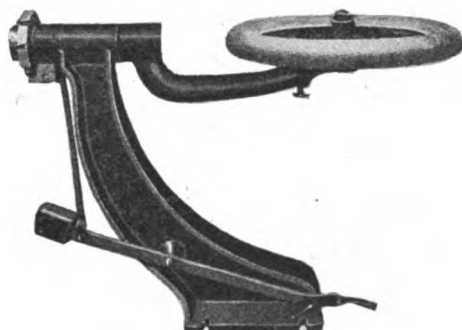
Security Auto Theft Signal

## KETCH-A-KICK FOR FORDS

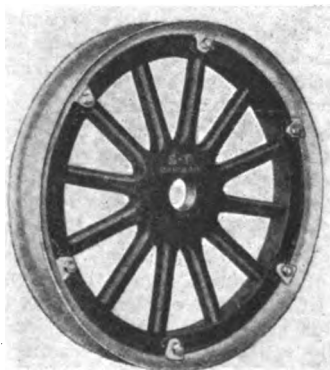
This is a safety crank-catch for the Ford. It is attached around the front frame member by means of bolts and it occupies such a position that when the crank is turned around in the direction necessary to start the engine, the hook is pushed out of the way and the crank passes on in its natural direction. When the engine backfires, the crank strikes the catch in such a way that the hook catches the crank, which slides upward and outward, thus disengaging the crank from the engine and holding it in the hook. Price \$1.50.—Automotive Exchange of America, Hippodrome Annex, Cleveland.

## P. I. W. TIRE BUILDING STAND

This is a tire building stand made in two models, the S4 allowing the ratchet to be worked by foot and the SC having a manually operated ratchet. Otherwise both models are alike. This spider revolves on a turned shaft riveted into the arm, and has three adjusting screws capable of handling cores of any size tire from 28 to 44 in. in diameter. The ratchet is reversible and on the foot-operated model the foot lever can be changed from one side to the other. Price \$45 for the Model S4 and \$42.50 for the SC.—Pechstein Iron Works, Keokuk, Iowa.



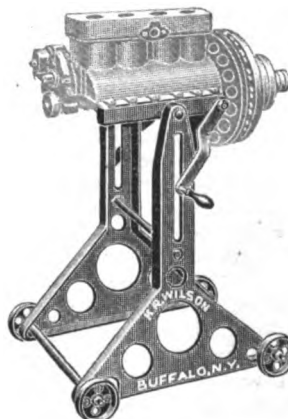
P. I. W. Tire Building Stand



Baker Wheels with Pneumatic Rims

## BAKER WHEELS WITH PNEUMATIC RIMS FOR FORD TRUCKS

This is a set of wheels to replace the solid tired wheels on the rear of the Ford trucks.



Wilson Engine Stand

## BEACON ELECTRIC TUBE VULCANIZER

This is a tube vulcanizer with a capacity of 4 tubes, the heat for generating the steam being supplied by electricity. An automatic regulator keeps the temperature constant and the outfit is complete with necessary clamps, steam gage, rack and cord.—Bacon Vulcanizer Mfg. Co., 1853 Thirty-eighth Avenue, Oakland, Cal.

## FEASTOR ACCELERATOR NOW \$2.50

The price of the Feastor foot accelerator has been reduced from \$3.75 to \$2.50. Made by Peter Gray & Sons, Inc., Third and Binney Streets, Cambridge, Mass.

## WILSON ENGINE STAND FOR FORDS

This is a stand for Ford engines with special locking features to hold the engine rigid in any position. The base is wide enough to prevent upsetting and wheels are provided so that the whole outfit can be moved around. Shipping weight 100 lb. Price \$20.—K. R. Wilson, 10-16 Lock Street, Buffalo, N. Y.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2116—MAGNETO-BEARING PULLER

A magneto-bearing puller is made by slightly altering a machinists' vise and adding an attachment, the alteration not rendering the vise any less useful for ordinary work. Two half-circular grooves are cut across the face of the jaws at one end of the vise, these being cut by closing the vise and drilling a hole the correct diameter, softening the vise jaw at that point if necessary. Two holes are drilled and tapped in the other end of the vise, one in each jaw, and cap screws go into these to hold the slotted plate, which is drilled and threaded at the center to take the long pointed screw which presses the shaft out. In operation the bearing is held in the grooves, the slotted plate fastened on and the pointed screw turned in against the shaft.—W. F. Howard, Kay & Burbank Co., Santa Ana, Cal.

## No. 2117—SOLDERING MULTIPLE-STRAND WIRE

Multiple-strand wire is soldered with a smooth joint and without a big bulge by peeling back the insulation on each end for about  $\frac{1}{2}$  in., thrusting both wires together without twisting the strands so that the strands go into each other for the  $\frac{1}{2}$  in. A single strand of the wire is then wrapped tightly around this joint, which is soldered in the regular way. The resulting joint will be very little larger than the regular wire.—W. H. Lane, Auto Electric Appliance Co., Denver, Col.

## No. 2118—LIFTING THE FORD ENGINE

The Ford engine is lifted and balanced by means of a hook with a threaded bolt, this being threaded into one of the cylinder-head-bolt holes between the third and fourth cylinders. The hook is made from an old steering-rod fork. The end of the steering rod is left in the fork and cut off flush. A regular Ford cylinder-head bolt is then put through the hole and the head will prevent its slipping through.—Albert B. Jackson, East Providence, R. I.

## No. 2119—A ONE-WIRE TEST SET

A set of dry cells for testing is made more convenient by sheathing the outside of the box with tin or zinc and connecting one of the battery terminals to this. The other terminal is connected in the usual way. By setting the test down on any metal part of the car, one terminal is automatically grounded to the frame and the exploring can be done with the other wire with one hand.—Arthur Lambert, Lalime & Partridge, Inc., Boston.

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

## No. 2120—JIG FOR REMOVING BUICK VALVE SPRINGS

The spring cap and spring of the Buick valve is removed by making a small tool or jig, which is attached to the bench. It consists of a flat piece of machine steel  $\frac{3}{16}$  in. thick, 1 in. wide and 4 in. long. A  $\frac{3}{8}$ -in. hole is drilled  $\frac{3}{8}$  in. from one end and this is slotted out to the end with a hack saw. Two  $\frac{1}{4}$ -in. holes are drilled in the other end and countersunk for wood screws so that the jig can be screwed to the front of the bench. Pushing the valve against this, the valve stem going through the slot and the washer resting against the jig relieves the tension and the valve can be disassembled.—W. I. Jenkins, Sherwood-Chastain Auto Co., Mitchell, Ind.

## No. 2121—BOILER MADE FROM PREST-O-LITE TANK

A steam boiler for battery or other work is made from a Prest-O-Lite tank from which the filling has been removed. The stem is heated and screwed out and the tank filled about half full of water. A try cock is threaded into the tank at this level so that the level of the water can be ascertained at any time. The necessary connections are made for conveying the steam to the desired point, and the apparatus is equipped with a steam gage. A gas or gasoline burner supplies the heat.—Kelsie Click, Decatur, Ind.

## No. 2122—STEAM BOX FOR BATTERIES

A steam box for softening the sealing compound on batteries is made by surrounding a small wash boiler with a wooden box and filling the space in between with a heat insulating material. The box is made several inches larger in all directions than the boiler and wet paper can be used for the insulator. It is packed down while wet. The metal cover of the boiler is discarded and a  $\frac{3}{4}$ -in. board made to exactly fit the top. The steam is admitted through a nipple and elbow, this going to a tee through a long elbow and the tee being attached at one end to the steam line and a plugged nipple at the other. The distance is such that it acts as a hinge. The top board has two battens which press the lower cover in place.—Kelsie Click, Decatur, Ind.

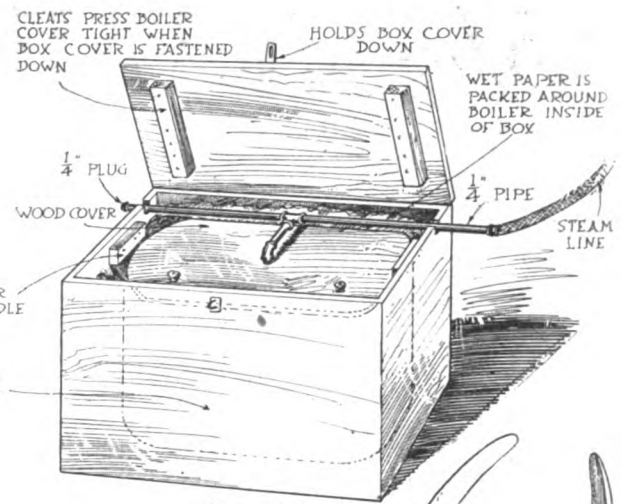
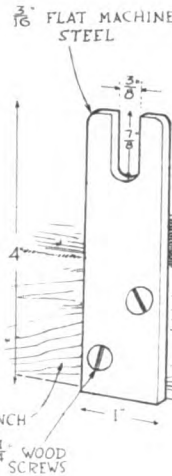
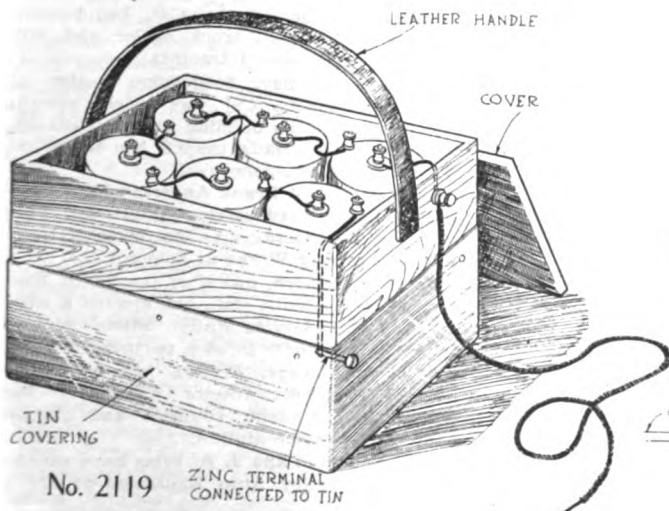
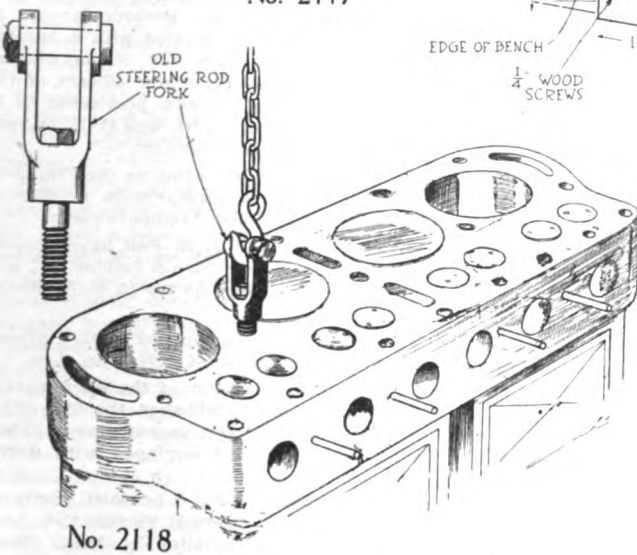
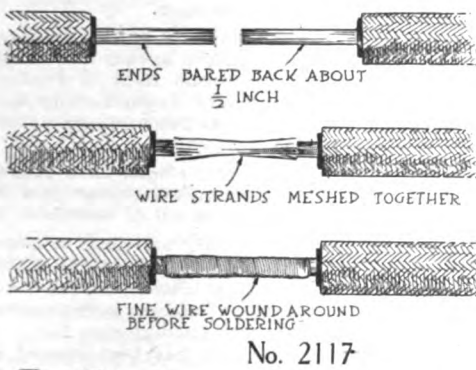
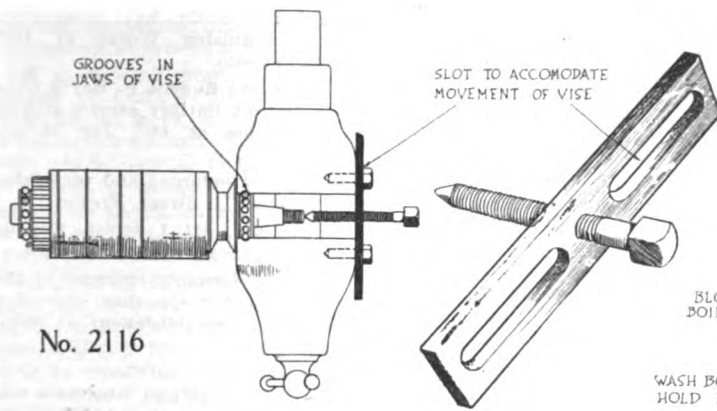
## No. 2123—REMOVING BROKEN VALVE CORES

Broken valve cores are removed with a tool made by grinding down the jaws of a pair of tube-patching pliers. They are made small enough to go in the valve stem while slightly open.—Joe Hamblet, Jr., Florence Rubber Co., Florence, Col.

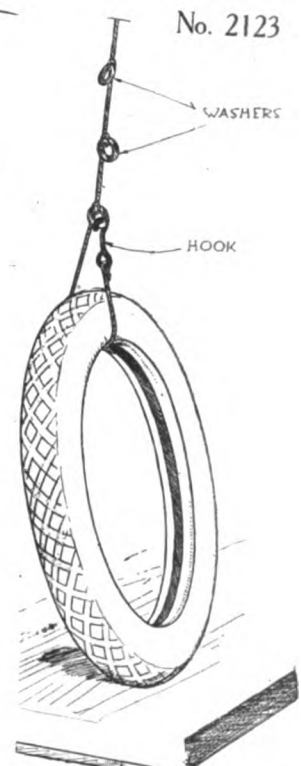
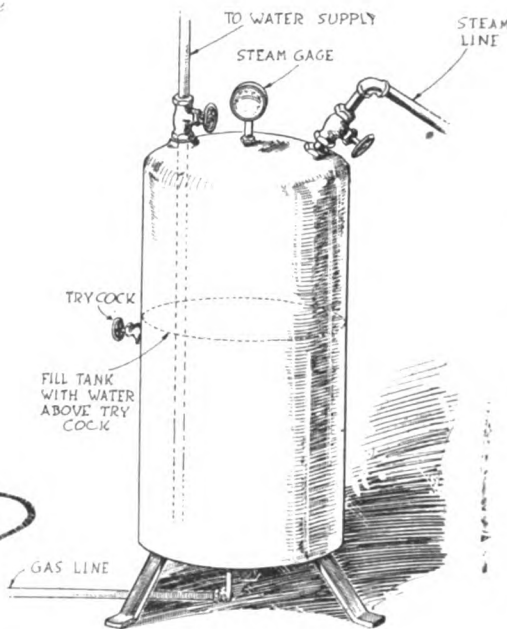
## No. 2124—CASING HANGER

A hanger for holding casings while doing inside work or inspecting is made by hanging a strong cord or piece of clothesline from the ceiling and wiring some washers to it at intervals. A hook in the lower end of the line completes the device. The line is passed through the casing and the hook is inserted in whichever washer will hold the casing at the desired angle.—Charles C. Hinton, Orange County Tire Co., Santa Ana, Cal.





No. 2123



No. 2124



# The RETAIL NEWS

## EAST

H. M. Duyckinck, proprietor of the Rising Sun Garage, Rising Sun, Md., will erect a two-story, 75 x 100 ft. addition to his garage. This will give a capacity for 145 cars.

The Security Auto Theft-Signal System has opened an office and store at 253 West Fifty-eighth Street, New York City, for wholesale and retail distribution of the Security Auto Theft Signal. Marce J. Orr is in charge of the store and Robert Hays is territorial manager.

## MIDDLE WEST

Bennett-Williamson Co. has been organized in Detroit to handle Transport trucks. The owners are Glen D. Bennett and L. P. Williamson, both experienced automobile and truckmen. This truck is made in Mt. Pleasant, Mich.

Mt. Sterling Auto Co., Mt. Sterling, Ill., will erect a new building, 62½ x 120 ft., two stories, to cost \$35,000. The company operates a garage and repairshop.

Nash Garage, 15 Court Street, Fond du Lac, Wis., owned by Dunham & Campbell, has been appointed district dealer in the Case tractor and tractor implements.

A. J. Feldmann and Jack Anton, Plymouth, Wis., have formed a partnership as Anton & Feldmann and will handle Esenay products exclusively in Sheboygan County.

Raab-Thieman Co., Sheboygan, Wis., Ford dealer, has arranged for the construction of a new salesroom and service building on North 8th Street in that city, which will be the first structure of its kind on Sheboygan's principal business thoroughfare. The building will be 80 x 100, two stories, with the entire second floor devoted to service and repairs. A plate glass front will stretch across the entire 80 ft. frontage. The present large headquarters on Niagara Avenue will be retained and also enlarged during the summer.

Noble Z. Smith Auto Co., Milwaukee, new State distributor of the National, has opened headquarters and salesroom at 622-626 Wells Street, Milwaukee. Noble Z. Smith, head of the company, formerly distributed the National in Michigan. In recent years he conducted a large garage and dealer business in Green Bay, Wis.

F. J. Noetzel, of Elkhart Sales Co., 1116 Wells Street, Milwaukee, has been appointed State distributor of the Huffman truck.

Healy-Larson Motor Co., Milwaukee, distributor of the Westcott, has been designated as distributor of the Republic truck in the State of Wisconsin.

Kenosha Motor Sales Co., Kenosha, has been incorporated with a capital stock of \$20,000, and will deal in the Hudson, Essex, Dodge and the Republic truck. A new garage, salesroom and service building, 55 x 127 ft., to be ready July 1, will be erected. Peter Rohde and Rene Ruster are the prime movers.

Elmer Tuttle, Antigo, Wis., is a new Grant Six dealer and will build a one-story fire-proof garage, 44 x 70.

Norman Fraser, Streator, Ill., has opened a new garage and repairshop, which will be an adjunct to the sales agency he has operated for some time.

Cadillac Sales Co., Rock Island, Ill., has been organized and has opened a garage at 409 Harrison Street. K. G. Zoller, who recently returned from the army service in

France, will be sales manager and K. V. Berthold of Aurora, will be assistant.

A. E. Powell, Aledo, Ill., has opened a new garage, service station and sales agency on East Seventh Street. The Chandler will be distributed in Mercer County territory. Powell was formerly in the same business in Galesburg, Ill.

Arthur L. Johnson, Rockford, Ill., has opened a truck agency and service station at 120 to 126 North First Street and the plant will be known as the Central Garage. White and Stewart trucks will be distributed in Winnebago County territory. Earl Bengston has been appointed sales manager. Johnson will also operate a repairshop and accessory store at 130 North Madison Street. Paul Paulson has been appointed manager of the mechanical department.

Al C. Webb, formerly the head of the Webb Motor Fire Apparatus Co., St. Louis, has organized the A. C. Webb Motor Car Co., Indianapolis, to handle the Moon.

Storage Battery Co. is the name of a new company which will handle distribution in Indiana for the Philadelphia storage battery. Andrew W. Hutchison, vice-president of the Detroit Electric Sales Co., and secretary of the Indianapolis Automobile Trade Association, will head the new company. Duncan F. Holliday, formerly of the Exide Battery distributing agency, is vice-president; Maybelle R. Hutchison, secretary, and Ralph K. Smith, treasurer.

H. Nelson Dunbar, formerly of Pittsburgh, Pa., is the president and general manager of the H. N. Dunbar Motor Co., recently organized to distribute Liberty cars in Indiana. Before coming to Indianapolis Dunbar was manager of the Ford assembly plant in Pittsburgh.

## PACIFIC COAST

Harbert Motor Sales Co., 1333 I Street, Fresno, Stutz dealer, has secured the agency for Nash cars and trucks and remodeled and enlarged its salesrooms.

Evins Rubber & Supply Co., has retired from the accessory field and moved to new quarters at 1839 Merced Street, Fresno, and will act as wholesale distributor of Firestone tires in Madeira, Kern, Fresno, Kings and Tulare counties.

Bottoms-Williams Motor Co. has taken possession of its new 50 x 150 building at 1330 Van Ness Avenue, Fresno, which has been specially designed as salesrooms and service station for the Hudson, Hupmobile, Essex and Oakland. The former premises, 1826 Fresno Street, are retained as a used car department.

Compton Bros. have opened a vulcanizing shop at 2240 Tulare Street, Fresno.

The Niederaur Truck Mfg. Co., 2220 Inyo Street, Fresno, has been appointed distributor of the Brown truck unit and the Traffic truck.

W. S. Nash has leased the new garage building at 1433 I Street, Fresno, and will operate it as Nash's Garage.

R. B. Wilson, Paige distributor for Madeira and Fresno counties, has taken possession of a new 75 x 150 building at 1357-59 I Street, Fresno.

E. V. Leek and E. A. McMullin have severed their connection with the Splittorf Electric Co. and opened the Auto Electric Repair Shop at 1358 I Street, Fresno. They specialize in armature rewinding.

W. F. Huffmyer and Leslie Mugg, formerly of the Evins Rubber Co., have established the Service Vulcanizing Works at 1937 Merced Street, Fresno.

Geo. E. Carroll and Eugene P. Boyce have established a Detroit Battery service station and tire salesrooms at 1357 Jay Street, Fresno.

T. L. Newton has enlarged and remodeled his repairshop at 921 L Street, Fresno.

Lyons-Morgan Co., 921 I Street, Fresno, has secured the agency for Case tractors.

L. A. Humphrey, formerly manager of the Fresno Auto Wrecking Co., has opened a used car and parts establishment at 457 I Street, Fresno.

Fresno Tire Sales Co., distributor of Keystone and National tires and wholesale and retail dealers in factory seconds, have located at Jay and Merced streets, Fresno, with S. Kravetz as manager.

Geo. C. Warner, formerly service manager of the Giffen-Wolfe Ford agency and C. M. Paul, engineer of Fresno Rock & Product Co., have entered into a partnership and opened the Warner & Paul Garage at 651 I Street, Fresno.

C. C. Berry and Bert Hagan have opened the B & H Vulcanizing Works at 1806 E. Front Street, Selma, Cal.

F. C. Owens, formerly assistant manager of the San Francisco branch of the Exide Battery Co., and C. L. Davenport, have acquired the controlling interest in the capital stock of the Electric Laboratories, Inc. A new building, 50 x 110, has been erected at 1347 Van Ness Avenue, Fresno, devoted to automotive electrical service with a battery department exclusively for Exide battery sales and service. The new officers of the company are F. C. Owens, president; L. L. Davenport, vice-president, and C. L. Davenport, secretary and treasurer.

M. E. Francisco, operating as the Francisco Co., has opened a supply store at Merced Street and Van Ness Avenue, Fresno.

Samuel Beck and J. B. Pell have become owners of the Visalia Tire & Rubber Co., and moved to a new store at 110 E. Main Street, Visalia, Cal.

Liberty Tire Co. has opened at 936 I Street, Fresno, with a stock of Firestone tires.

O. L. Steele, manager of the Ford agency Visalia, Cal., has established the Tire Shop at 318 E. Main Street, specializing in Firestone solid tires and equipped with a hydraulic press.

Willmott Motor Co., Chevrolet, Scripps-Booth and Paige dealers at Visalia, Cal., have moved to a new building at 219-21 West Main Street.

Dinuba Garage, Dinuba, Cal., has become Stewart and Signal truck dealer and will also handle Cleveland tractors.

Elliot E. Bradley, Studebaker dealer at Fresno and Visalia, Cal., has entirely rebuilt and remodeled the building at 1402 I Street, Fresno. The Visalia branch has taken on the White truck agency.

L. J. Price and Frank Anderson have purchased the Willard service station and vulcanizing shop operated as the Selma Battery and Vulcanizing Works at Selma, Cal.

Geo. R. Welborn, owner of the South End Garage, Mt. Reedly, Cal., has erected a new building with service station adjoining, and taken J. I. Mallette in as a partner.

Wesley's Garage, Fresno, has been appointed Sandusky tractor distributor for Fresno and Madeira counties and official Vim truck service station.

Jess Anderson and J. A. Wise have established the Valley Auto Exchange at 817 I Street, Fresno.

Hines-McGinnis & Co., automobile electricians, have opened a service station at 1305 Van Ness Avenue, Fresno.



Gordon & Einstein have secured the agency for Wallis tractors and established salesrooms at 1429 Van Ness Avenue, Fresno.

E. C. Smallin, Ford and Fordson tractor dealer at Clovis, Cal., is erecting a new building, 75 x 80, which will be used for Ford service exclusively. The present premises will be devoted to the Fordson tractor.

Beasley & Noren, Clovis, Cal., have been appointed Overland dealer and are erecting a new building, 50 x 125, at the corner of Fifth and Polasky streets.

H. J. Levey has established the Tire Hospital at 168 North L Street, Dinuba, Cal., with a complete vulcanizing equipment, and specializing in Horseshoe and Savage tires.

#### SOUTHWEST

P. P. Hughes, Emporia, Kan., has opened a battery station.

Southwestern Tire Repair Shop, Liberal, Kan., has recently opened for business under the management of J. M. Wheeler.

Karl H. Beggs, Herington, Kan., has leased a building for a garage and repairshop.

Neal Motor Co., Kansas City, has recently been incorporated with \$75,000, all of which has been subscribed. The company will open a salesroom in the near future.

E. J. Turner, Clifton, Kan., has started work on a new garage, 42 x 100.

J. D. Jones, McAlester, Okla., will soon erect a new garage.

G. T. O'Malley Ford Agency, Kansas City, has leased a four-story and basement building at 1717-19 Walnut Street, for Fordson tractors. This is in addition to present quarters.

Cooper Motor Co., Kansas City, has added the Gary truck to its line at 1618 Grand Avenue. It also handles Autocar and U. S. trucks.

Gateway Motor Car Co., Kansas City, a newly organized agency for Commerce trucks, has leased a two-story and basement building at 1517 McGee Street.

United Tire & Supply Co., Kansas City, has recently been organized by A. B. Clarke, formerly in charge of purchases for the Home Telephone Co., to distribute Dreadnaught pneumatic tires and to retail Republic truck tires. A salesroom has been leased at 1815 Grand Avenue and is being remodeled to include some new features of tire selling equipment.

Butler Motor Co., Kansas City, has signed a contract for a ten-year lease at a total rental of \$120,000, for a four-story and basement building, to be erected at Twenty-sixth and Grand avenue. The building will have 60,000 sq. ft. of floor space. The Butler company is distributor for Dodge Brothers cars and trucks in this territory.

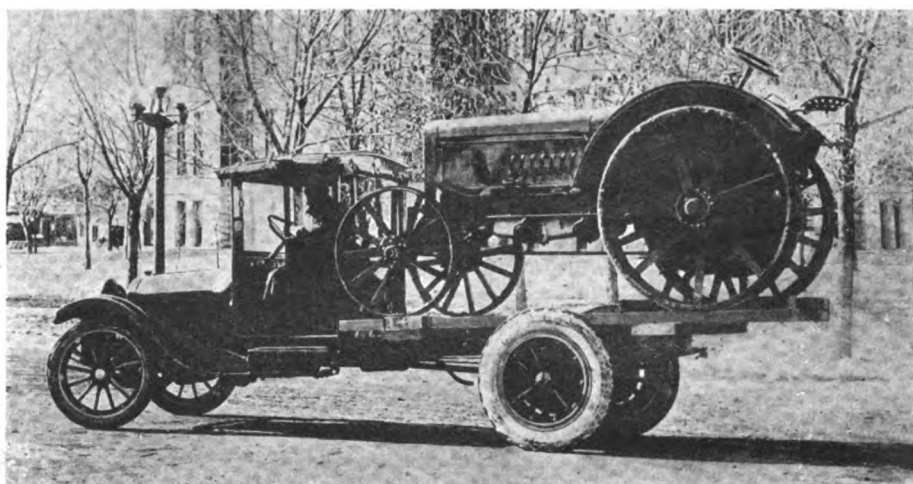
Halifax Brothers, Thomas, Okla., will open an Auto Electric service station.

Graves & McCoy, Neodesha, Kan., have opened a salesroom for Buick and Dodge cars.

E. S. Trowbridge & Son, Braymer, Mo., will open a Gates Half Sole tireshop.

Halve & Harnby, Altus, Okla., have opened a painting and repairing plant.

Albert Clark Motor Co. has been organized in Kansas City to distribute Detroit electrics in seven states, succeeding to the distribution previously handled by the Anderson Electric Car Co., through its Kansas City branch. Albert T. Clark for 9 years manager of the branch, is president of the new company; Eldon C. Hemenway, 8 years on sales, 4 years as salesmanager, will be treasurer and salesmanager of the company. John Mattson, for the past several years cashier, will be secretary. Clark will be general manager.



**T**HIS photograph of a Dodge chassis attached to an internal-gear-drive unit equipped with 38 x 7 cord tires and carrying approximately 5200 lb. shows how a wideawake dealer in Nebraska solved the difficulty of demonstrating his tractor to a large number of farmers scattered over a wide territory. By installing the tractor on a specially built deck above the frame of the chassis he was enabled to bring the tractor, at short notice, to the farmer's very door and give him a field demonstration on the spot. The above outfit, with its unusually heavy load, has carried tractors thousands of miles over a large portion of Nebraska. The plan has been so successful that the dealer has standardized this plan of selling tractors throughout his territory and added a fleet of chassis equipped in a similar way.

The Delmar Auto Supply Co. has opened an equipment store and garage at 5802 Delmar Avenue, St. Louis. J. M. Cohen and A. R. Smith are the owners.

The Rotterman Automobile & Truck Co., St. Louis, has added the Wheat tractor.

The Ambu Electrical Service Co. has opened a station at 2012 Locust Street, St. Louis, for Ambu equipment. Nicholas Helman is manager.

The S. C. Hoffman Magneto Co. is removing from 1026 Pendleton Avenue to 3219 Locust Street (Motor Row), St. Louis. The company handles service for 11 makes of magnetos. S. C. and D. T. Hoffman, the owners, have both reached home from service in the Aviation Department.

#### NORTHWEST

Case Auto Co., Fountain, Minn., bought and will operate the Hervey garage.

Martin Rosendahl, 229 East Superior Street, Duluth, has opened additional showroom space at 301 East Superior Street because of the inclusion of the Scripps-Booth in the line, which included Stutz, Chandler, Reo and Standard.

H. P. Conrad Motor Car Co., St. Paul, has reopened an Elcar service station at 227 West Fifth Street, in charge of R. L. Greenwood.

Interstate Auto Co., Duluth, has appointed M. Bodin of Minneapolis in charge of the service for the Oakland car which has been added to the Franklin agency already maintained.

New Method Tire Co., Fifth and Market Streets, St. Paul, is a new organization, in charge of J. P. Clazie and D. Pleason.

Minnesota Storage Battery Co., St. Paul, has been incorporated at \$50,000 as a merger of the Minnesota Storage Battery Co. and the Minnesota Battery & Electric Co., to make batteries and battery parts. Ferris Price is president.

J. A. Mayer, St. Paul, formerly traffic manager for J. H. Allen Co., wholesale groceries, has been appointed salesman for the Essanell Electric Co., which has moved to 196 West Sixth Street, where it operates an Exide station and sells Michelin tires.

Hilmer Hanson, Frost, Minn., has gone into the garage business with John Frandle.

John Elachen, Kellogg, Minn., has bought the new garage from Phillip Bros.

H. W. Dugae, Ray LaFountain and Harris LaBelle, Cass Lake, Minn., bought the Richards Auto Co. and changed the name to Northern Welding & Auto Co.

Sioux Falls Tire & Repair Co., Sioux Falls, S. D., has opened a shop at 232 North Phillips Avenue, to handle a general repair business and the Federal line.

Irene Auto Repair Co., Irene, S. D., has been incorporated at \$30,000 by Sivert Liabo, Oscar Simonson and Ingvald Vognild.

J. G. McClurg, distributor for the Rauch & Lang electric, has formed the Raulang Co. and moved to 107 Tenth Street S. He is president of the company and L. F. Hunnibell is vice-president.

Battery Service Co., Bozeman, Mont., has been incorporated to operate a general battery service station.

Auto Sales Co., Brainerd, Minn., is a new organization of nine garages of the city to co-operate in buying oil, gasoline, supplies at wholesale. The company plans to build a storage plant. Officers are: President, Roy Sherlund; vice-presidents, W. E. Lively and J. T. Imgrund; secretary-treasurer, C. F. Hoffman.

Carl J. Notze, Hawarden, Iowa, has bought a garage at Ireton, Iowa.

R. E. Yaokum, Kansas City, has opened a tire retreading shop at Stanton, Iowa.

Fred Hill, Leon, Iowa, has bought the Jefferson Highway Garage there.

Davenport Schrup Motor Co., Davenport, Iowa, has been organized with a capital stock of \$50,000.

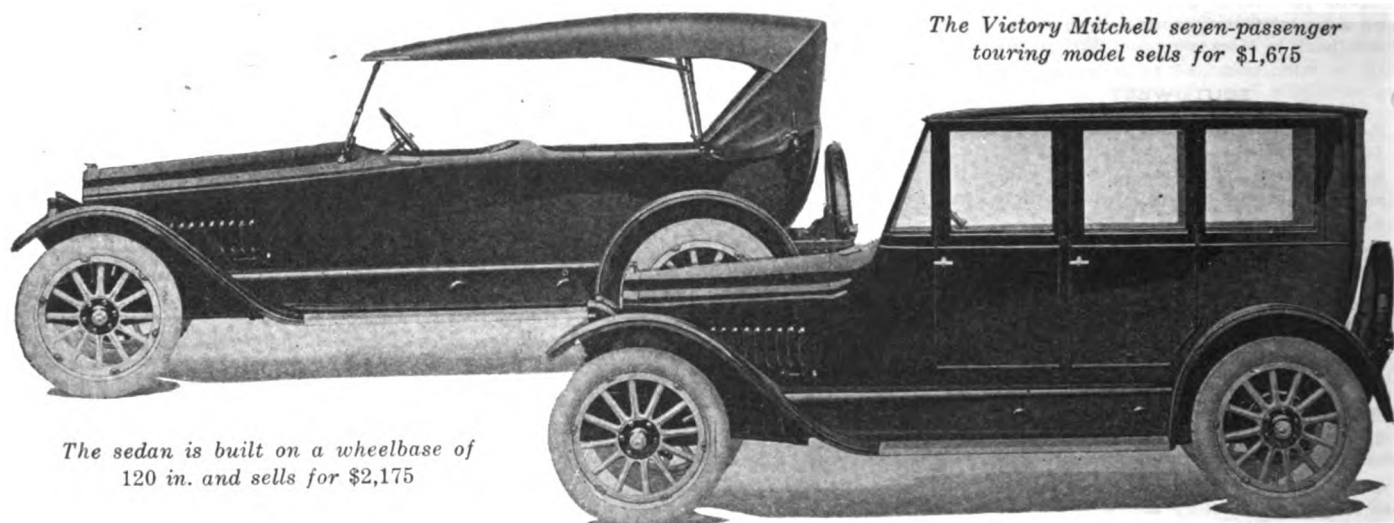
Will Freeman, Cedar Rapids, Iowa, has opened a vulcanizing and retreading plant at Anamosa, Iowa.

K. K. Brumfield and Lewis H. Barrett, Grinnell, Iowa, have leased the armory there and will open a motor car, truck and tractor salesroom.



# Mitchell Victory Model in Two Chassis and Four Bodies

*Engine Dimensions Remain the Same, But Detail Refinements Mark the Power Plant Design—Clutch Is Now Borg & Beck—Left-Hand Spiral Differential*



*The Victory Mitchell seven-passenger touring model sells for \$1,675*

*The sedan is built on a wheelbase of 120 in. and sells for \$2,175*

THE new Mitchell Victory model, made by the Mitchell Motors Co., Inc., Racine, Wis., is presented in two chassis models and four body types, all reflecting the many detail changes which have increased the weight and added to performance. The 120-in. wheelbase chassis is fitted with a five-passenger body, which has the straight line hood and cowl effect with low bevel edge sides; a three-passenger roadster and a five-passenger touring sedan. The seven-passenger has a 127-in. wheelbase and has the double cowl type of body.

Engine dimensions are the same as in the previous model,  $3\frac{1}{4} \times 5$  for 120-in. chassis and  $3\frac{1}{2} \times 5$  for the larger car, but detail changes have been made to provide a better crankshaft balance, better lubrication and to give greater accuracy of production. A thermostat is fitted for temperature control and a Borg & Beck clutch is used in place of the cone, this being the only change in the design of the units.

## Deeper Channel Section

The channel section of the frame has been deepened, so that it now measures 6 in. instead of  $4\frac{1}{2}$  in. The center cross-member is heavier, so that now its depth is the same as the frame depth. Riveted to the bottom of the frame and to this cross-member is a heavy gusset plate, which extends for about 45 in. up to and beyond the cross-member which supports the rear end of the engine.

Other improvements on the frame are the tire carrier and the spring-shackle lubricating joints. The tire carrier is a circular band on which the rim of the tire fits. The support is riveted to the frame and held at four points so that the possibility of a loose and rattling carrier is

## PRICES OF THE VICTORY MITCHELL MODELS

Model E-40, 120-in. wheelbase:	
5-pass. Touring Car.....	\$1,475
3-pass. Roadster .....	1,475
5-pass. Sedan .....	2,175
Model E-42, 127-in. wheelbase:	
7-pass. Touring Car.....	1,675

greatly reduced. The spring shackles are all lubricated with grease cups. These cups are conveniently placed and fitted with extensions where necessary so that filling is facilitated.

In the engine we find detailed refinements, brought about by the new manufacturing methods. The cylinders of the former Mitchell engines were reamed out to a 0.001 in., but now with the govern-

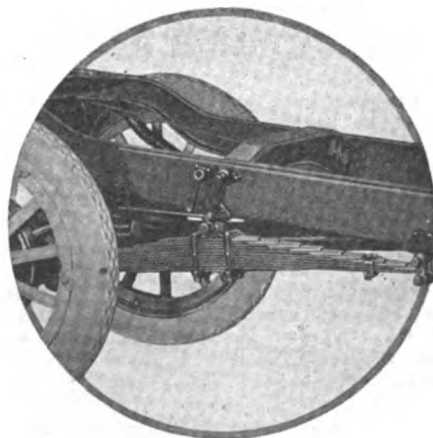
ment inspection methods being used the cylinders are ground out to one-half of one-thousandth. This measurement includes diameter of bore, ellipticity, parallelism and the taper, so that when a block is finally ready it is rather close in measurement in every respect.

The weight of the crankshaft has been increased 35 per cent, the bearings made larger and the finishing process improved, so that the shaft is now statically and dynamically balanced. A new machine for balancing shafts is used, together with the formerly used machine, so that now a double balancing operation makes sure of the checking process. The lubrication system has come in for its share of improvement. The oil indicator is more easily read, and a full and empty dial gives the owner exact information as to the quantity of oil in the engine. The design of the oil sumps has been changed, so that in the event of a careless mechanic pouring in too much oil excessive oiling will not take place. The dash indicator has been changed to a dial recorder, which does not bring oil to the dashboard.

## Fuel Economy Improved

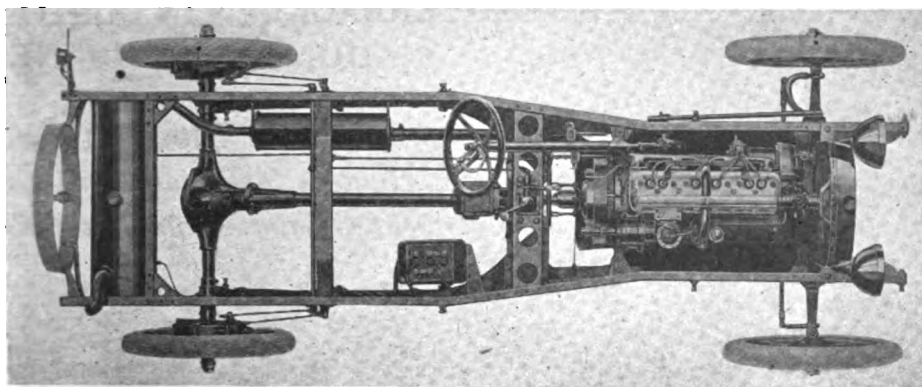
The economy of the engine has been greatly improved because of the larger radiator, the passage of water through which is controlled by a thermostat made by the Rayfield carburetor people. The thermostat was designed at the Mitchell factory, and the by-pass size is calculated to give the best results for the Mitchell engine.

The engine is now fitted with a Borg & Beck dry plate clutch, enclosed in a dust tight housing. The universal joint attached to the driveshaft of the clutch and to the neutral countershaft is en-



*Mounting of the cantilever spring on the Victory Mitchell*





*The chassis of the Victory-Mitchell is clean and well braced*

closed to the degree of oil tightness. This is made possible by the new construction of the driving jaws from the clutch. These are milled from a steel forging, finished and tempered. The slotted opening which grips the countershaft is increased in length so that the bearing pressure is reduced in intensity. This reduces the vibration of the universal connection and makes possible the oil-tight joint.

The gearbox remains unchanged, except that new standards in testing have been evolved. Gearsets are now tested in a room that is shut off from the rest of the factory. Here there is no outside noise to be heard and the exact adjustment of the gears is made possible.

#### Left Hand Differential

The differential ring gear and pinion construction is new, in that it departs widely from a standard that has become almost universal. The teeth on these gears are left hand spiral. Heretofore manufacturers have used right hand spiral gears, saying that in so doing the natural outward force of the bevel gear was counterbalanced by the inward pull of the spiral. Mitchell uses a left hand spiral so that the two thrusts add together, and to overcome this extra large bearings are used. The pinion and ring gear are adjusted to a running fit so that the gears engage on their pitch lines. This involves another new system, which requires that all ring gears and pinions be accurately mated. This is done in a machine which tests out each ring gear with a great number of pinions, and when the best running pair is found they are labeled and sent through the rest of the assembling process. The ring gears are now finished on the back edge and face for the purpose of securing greater accuracy in the tempering machine which grips the gear and holds it from warping while going through the quenching process.

The front and rear axle construction is heavier throughout. The brakes are changed so that the adjustment is now a matter of a few seconds time. The body of the car has undergone a whole series of changes. With the higher radiator the streamline effect has been carried out to completeness. The keen looking beveled edge continues from the rear to the front and around the edge of the cowl it blends into a smooth curve that continues to the front of the radiator.

The front seat has been set back 2 in. and the gear shift lever has been offset so that all gear positions can be reached without shifting one's position in the seat. The instruments on the board are conveniently arranged so that they are all visible to the driver in the driving position. The light and ignition switch are controlled with a lever type handle instead of the push-button formerly used. The switches are now locked with a Yale lock. The only marked change in the electrical system is the attachment of the ground connection to a polished pad on the frame.

The doors of the car are heavier in construction, and the left front door now contains the added feature of a tool pocket. The steering wheel is set slightly lower and the gears are ball bearing. This together with the oversize tires adds much to the ease of steering.

The body is now finished with two coats of varnish. Very heavy leather is used in the seats. The top is fitted with metal beading and plate glass rear windows.

#### Billion Capital for General Motors

NEW YORK, May 5—General Motors likely will become a billion-dollar corporation. At the meeting of the board of directors in Wilmington last week, President W. C. Durant stated that the board of directors had recommended an increase in the debenture stock to \$500,-

000,000 and in the common stock to \$500,000,000. The increase will be passed upon at a special meeting to be held on June 12. W. P. Chrysler is elected first vice-president and H. H. Bassett was added to the board of directors and appointed general manager of the Buick division. Both Bassett and F. W. Hohensee, general manager of production of the Chevrolet division, were elected vice-presidents. The complete list of officers and directors follows: President, W. C. Durant; first vice-president, W. P. Chrysler; vice-presidents, H. H. Bassett, A. G. Bishop, R. H. Collins, W. L. Day, J. A. Haskell, A. W. Higgins, F. W. Hohensee, R. S. McLaughlin, C. S. Mott, J. J. Raskob, A. P. Sloan, Jr., Edward Ver Linden and F. W. Warner; secretary, T. S. Merrill; treasurer, H. H. Rice; comptroller, M. L. Prensly.

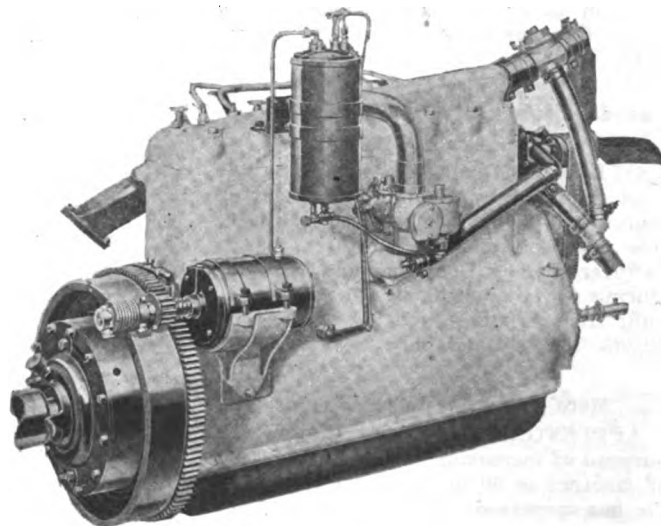
#### 50% Stock Dividend for Jordan

CLEVELAND, May 6—The capital stock of the Jordan Motor Car Co. is to be increased to \$1,200,000 7 per cent preferred and 12,000 shares of common with no par value, authorization for the increase having been voted at a special meeting yesterday. The company will erect several new buildings and will make a conservative increase in production. Last year Jordan business totalled \$8,000,000 on a capital of \$300,000. The recent trade paper announcements of the new Jordan line have swamped the company with orders. The new stock issue will be in the form of a 50 per cent stock dividend. Edward S. Jordan retains control of the company.

#### Willys Heads N. A. C. C. Show Committee

NEW YORK, May 6—The National Automobile Chamber of Commerce has appointed John N. Willys chairman of its show committee for the 1920 passenger car show. Other members of the committee are H. J. Root (Westcott) and H. M. Jewett (Paige). M. L. Pulcher (Federal) heads the committee on motor truck show, his associates being A. J. Whipple (Diamond-T) and David S. Ludlum (Autocar).

*Intake side of the Victory Mitchell six-cylinder engine, showing mounting of the carburetor and vacuum tank and location of the starting motor*





## STANDARDIZE RATINGS FOR FARM TRACTORS

### *Department of Agriculture Working with N.I.V.A. to Eliminate Confusion*

CHICAGO, May 3—The possibility of definite action toward the establishment of standard method of rating tractors is indicated by appointment this week of Committee of Tractor Division of National Implement & Vehicle Association to take up with United States Department of Agriculture standardization of tractor rating. Committee consists of four officials of old concerns manufacturing general lines of farm machinery, including tractors.

#### Tractor Sales Pick Up

DES MOINES, May 3—The past 10 days have seen a decided improvement in tractor sales and prospects in the Iowa field, according to Des Moines dealers and distributors. Part of this improvement is attributed to a week or so of clear weather after a period of two to three weeks of almost constant rain. The rain was just the thing to put the soil in good shape for agricultural work, but it did not tend to help sales any. A week of sunshine has overcome this gloom and the business has started off with a rush. The week has seen a new firm enter the tractor field in Des Moines. The Parritt-Dennan Co. has been incorporated with a capital of \$60,000 and will handle a large territory in Iowa for the Cleveland tractor. Frank T. Parritt and Milton Denman are the incorporators.

#### Butler Farmers See Fordsons

BUTLER, PA., May 5—A demonstration of Fordson tractors was given before 100 farmers from Butler, Clarion and Armstrong counties by the Schenck Mfg. & Supply Co., using plow, harrow and manure-spreader, on the Parker farm, near here. Some of the farmers later were permitted to try out the tractors on their own land, under factory men. The company has ordered a carload.

#### Canada Bought 21,691 American Farm Tractors in 1918

OTTAWA, May 3—According to figures compiled by Dominion authorities, more than 8,000 tractors were shipped into Canada by United States manufacturers during December and January. During the year 1918, 21,691 American-built tractors were exported to Canada; 12,805 in 1917, and only 3,693 in 1916.

#### More Money for Eagle Tractor

APPLETON, WIS., May 3—For the purpose of increasing its monthly output of tractors to 60 or 75, the Eagle Mfg. Co. has increased its capital stock from

\$200,000 to \$500,000. Large additions to the foundry and machine shops will be erected at once. New officers have been elected as the result of a reorganization due to the acquirement of a major interest by new stockholders. Frank Saiberlich, president and founder of the company, and his brother, Oscar, retire. A. W. Priest is the new president; Charles Hagen, vice-president and general manager; August Meyer, second vice-president, and E. W. Saiberlich continues as secretary and treasurer.

#### Don't Ask Buyers "To Pay Tax"

NEW YORK, MAY 2.—Although no definite rulings have come through yet from the Internal Revenue Bureau with regard to the new war tax, the National Automobile Chamber of Commerce has received a number of preliminary rulings. In consequence of these it is suggested that dealers and distributors do not ask purchasers "to pay a tax" but merely to reimburse the dealer for the tax which he has had to pay to the factory, and which the factory in turn has had to pay to the Government. It is suggested that the tax item be indicated by the expression, "To reimburse the manufacturer for excise tax." It is also pointed out that while the department's first thought was to tax retail sales on the basis of the highest wholesale price received, the bureau has now indicated that such sales probably will be taxed on the basis of the average price received on wholesale sales during the preceding month.

#### Tax Regulations Coming

NEW YORK, May 3—The Internal Revenue Department is preparing and has practically completed regulations covering the application of the entire Excise Tax Act to the automotive industries. It is expected that this will be issued in a short time. Because of this fact the department will not approve the primer which was prepared jointly by the Motor and Accessory Manufacturers Association and the National Automobile Chamber of Commerce.

#### Herring Enters Kansas and Missouri

DES MOINES, May 3—The Herring Motor Co., distributors of Ford cars, Fordson tractors and accessories, has entered the Kansas and Missouri territory. May 1 the Herring Motor Co. sent eight salesmen into Kansas and Missouri to remain permanently to cover the field in those states for the accessory lines handled by the firm.

#### Correction

In the Summer Merchandising Number of Motor World, April 16, in the advertisement of The Anthony Co., on page 454, the "Lever-locking Step-on Tire Connection" should have been "Slip-on" instead of "Step-on." A description of the device on page 50 mentioned a "gray iron foot brace." This should have been "foot base" instead of "brace." Also, the bases are malleable iron and not gray iron.

## GARAGEMEN IN BOSTON HOLD FIRST DINNER

### *More Than 100 of Garage Owners Association Hear of Organization Benefits*

BOSTON, May 5—More than 100 garage owners, the greater number members of the Garage Owners' Association of Metropolitan Boston, had their first dinner at the Hotel Brunswick last week, and they were given some practical talks by men prominent in the different lines in Boston. President John N. Scully introduced J. F. Fleming of the Brookline Garage as toastmaster. He knew all the speakers personally.

Col. W. D. Sohler, chairman of the Massachusetts Highway Commission, was the first to address the members. He gave them an admirable exposition of where the money is spent which the commission gets from motor fees, explaining in detail the maintenance of some of the smaller roads which are off the main line.

James T. Sullivan of the Boston Globe, and representative of MOTOR WORLD, was then introduced. He outlined to the men the benefits of organization, and how by co-operating with other associations they could do a great deal in stopping legislation aimed at the motor industry, and which is inimical to it.

Frank Lewis, fire prevention commissioner for Metropolitan Boston, the next speaker, explained the workings of his office and why it is necessary to have certain rules and regulations which must be lived up to. Also he told the members that now he has an engineer to pass upon all plans, and if they contemplate changes or new buildings, if they have the department pass on the plans they will save money, for there will be no need of alterations at a later date. He urged them to report fire hazards, and especially old barns and other buildings being used for garages contrary to law and he would wipe them out and so send business to the legitimate garage man.

John R. Murphy, fire commissioner of Boston, the last speaker, told how his department worked to minimize danger and had no animosity or pet ideas against garages, which he said were very well kept in Boston, where the garage fires in the district now are few and far between. He gave facts and figures about the Boston Fire Department, and how it is protecting lives and property, but he urged co-operation by garage owners so that prevention would mean lessening property losses, which in turn meant lower insurance for all classes, especially garage men. All the speakers were given a rising vote of thanks, and President Scully was also given one for the success of the meeting and dinner.



## Chicago's Dealers Hold Fete Day for Returned Air Hero



This is the dinner at the Congress Hotel, Chicago, given in honor of Capt. Eddie Rickenbacker by the Chicago automotive fraternity. Rickenbacker is seated about center of the speakers' table.

SOME of the best stories written are written by people who don't pretend to be story writers. That is why, in telling about the Rickenbacker dinner in Chicago, we are herewith printing a letter received about it from Executive Secretary Timothy D. Beard. He probably thought it was just a letter, but it's a good story. It tells it all in a way that makes you see the whole show. His letter follows:

Capt. Eddie Rickenbacker, former speedway champion, and now America's trump ace, was ace high in Chicago last Wednesday—April 23—when he arrived in town as the guest of the Chicago Automobile Trade Association. It was a great day for Motor Row, which turned out en masse in honor of the visiting flyer.

A lone line of automobiles, each machine decorated with flags and bunting, awaited the arrival of the guest of honor at the Park Row station where he came in at 10:45 a. m.

Thomas J. Hay, as chairman of the reception committee, was on hand to greet him. Assisting Chairman Hay were Robert Maypole and Gene Silver of the trade association; E. C. Patterson and M. C. Melgs, of the Chicago Association of Commerce; A. J. Banta and Joseph Callender, of the Chicago Automobile Club, and Harold F. McCormick and Charles Dickinson, of the Aero Club of Illinois.

The gala appearance of Michigan Avenue, decked out for the Victory loan drive, was somewhat dampened by the mists that rolled over from Lake Michigan, and the discouraging rainfall. Hundreds of dripping flags were hung out along the boulevard as the parade started loopward down a long lane of umbrellas.

Seven bands revived the drooping spirits of the crowd, which hailed Eddie with cheers. A number of picturesque floats, including a huge airship towed by a motor car, and several armored cars and tanks, lent additional color.

The parade turned west on Washington Street, then west along La Salle Street to the financial district, which was quite as gay with banners as "Boul Mich." It proceeded east in Jackson Boulevard and disbanded at the starting point.

"Rick" was taken to the Chicago Athletic Association, where a reunion of his old friends had been planned, and where he met, among others, Congressman Clifford C. Ireland, who had been selected as toastmaster for the banquet in the evening.

After luncheon he was escorted by the committee to the hospital at Forty-seventh Street and Drexel Boulevard, where he spent the afternoon cheering up the wounded soldiers. He took along an automobile load of flowers, candy, and cigarettes, and was warmly welcomed by the bunged-up doughboys.

The day's proceedings reached a climax at the banquet which was given at the Congress Hotel. Nearly 1000 guests were present, including the "Who's Who" of Chicago's automobile world.

Bishop Samuel Fallows pronounced the invocation. H. M. Byllesby, who retired from the army with the rank of lieutenant colonel, was then introduced.

"I am out of uniform now," said Mr. Byllesby, "and can say some things I couldn't have said before. But I won't. I have nothing to say about what has

(Continued on page 42)



# Preliminary Tax Ruling

## Treasury Department Issues Regulations Covering Application and Payment of New War Revenue Impost

WASHINGTON, May 6—The Treasury Department has completed regulations on the excise tax on automobiles, trucks, motorcycles and parts which are to be paid by the manufacturer.

The interpretations are not entirely clear and are so vague that it will require some months to secure definite rulings. Following are some of the more important excerpts:

The tax is effective February 25, 1919 regardless of the time when the car, truck or motorcycle was manufactured. *It applies on the actual sales price and not on the list price of the manufacturer.*

If the tax is included in the sales price the tax must be computed on the increased price. It is payable regardless if the commodity has or has not been paid for, once the title of ownership has changed.

Discounts for cash made subsequent to the sale cannot be deducted, but where cars, trucks or motorcycles are sold over a period of time in quantities and rebate is allowed when a certain quantity is sold, deduction for that rebate is allowed and must be claimed in the month when the final price is determined.

Commissions to agents or other expenses of sale are not deductible.

Cars, trucks or motorcycles sold f.o.b. factory do not include the freight charges in computing the tax even if they are paid by the manufacturer, provided he is reimbursed by the purchaser. Credit can be taken for taxes paid on cars, trucks, or motorcycles, if they are sold and returned.

There can be several taxes on the same car or truck. The maker of a body pays a tax, the maker of a chassis pays a tax, the assembler of both pays a tax. However, the assembler can credit himself with the amount of the tax imposed on and paid by the body and chassis makers when making his computation.

Where makers have agencies in which they have a financial interest the agency pays the tax. A tax applies when the title of ownership passes from the seller to the buyer.

Automobiles sold by the maker and on

which a tax has been paid are not taxable when sold again unless they have been returned to the maker if he has taken over the original tax in his tax account.

*This means that used cars can be sold without a tax.*

Tractors are not taxable even when sold in combination with trailers.

Cars, parts and accessories are taxable when they are sold to a dealer to repair used cars. If any doubt exists as to whether or not an accessory should be taxed it will be determined by the fact that it is sold by a manufacturer to an automobile accessory dealer.

However, wrenches and such tools are not taxable if they are made for general use. *They become taxable when by special design they are primarily adapted to automobile use.*

Robes, goggles, lunch kits and so forth, are not taxable.

Trailers are not taxable unless they are of that type which makes the rear part of a truck.

When parts are sold by a manufacturer to a jobber and in turn to a manufacturer of the part pays the tax.

When a purchaser of raw materials sells them to a manufacturer of parts or accessories and he in turn sells these to a car manufacturer, the maker of the car pays the only tax.

If a manufacturer is engaged in both wholesale and retail business for either completed cars or parts or accessories, he bases his tax on the wholesale price when he sells at wholesale and on the average monthly wholesale price of the article sold at retail.

There is no tax for cars, trucks or motorcycles sold for export provided they are exported within six months of the date of sale.

### Hudson Reduced \$225; Line Considerably Revised

DETROIT, May 5—A reduction of \$225 has been made in the seven-passenger Hudson Super-six and the other body models have been reduced on a corresponding scale. In connection with this announcement, there is also the an-

nouncement of a number of refinements in detail.

The springs have been modified and longer shackles used to give a flatter suspension and better riding qualities. The frame has been increased to 7 in. in depth and a new square cross member has been added in front of the gasoline tank at the rear of the chassis for greater rigidity. The strength of the rear axle has also been increased. There is a stronger ring and pinion gear and an improved adjustment of the ring gear. The wheels have solid rims and the tire equipment is now 34 by 4½ in. on all models. The front and rear wheels now have twelve spokes.

The brakes have also been enlarged, the former size of 14 by 2 in. having been increased to 15½ by 2½ in. There have also been a few detailed changes such as a larger horn, the license and lamp brackets now attached to the cross tube instead of the fender and an improved ignition switch, choke control and pilot lamp have also been provided.

In the body works and control units the levers have been made larger bringing them within easier reach of the driver. Gypsy curtains have been provided on both the four and seven-passenger phaeton, which not only harmonize with the body lines, but act as a draft preventer for the passenger in the rear seat.

In the seven-passenger phaeton, the comfort, appearance and strength of the auxiliary seats have been notably improved. Those seats are now upholstered in long grain leather pleated over Marshall springs.

New painting styles are also used on the Model O Super-Six. The body and wheels of the seven-passenger phaeton are finished in Valentine blue with black fenders. The body is striped in white and the hood louvres and wheels are also painted in the same manner to bring out the lines of the car.

The body of the four-passenger phaeton is finished in the same shade of blue as the seven-passenger, but the wheels are vermilion and the striping on the body bevel and louvres sets off the four-passenger lines.

The cabriolet and sedan are also finished in Valentine blue throughout and matched with the cloth upholstery. The coupé and touring limousine are finished in light Brewster green, deep maroon and Valentine blue, and are upholstered in harmonizing fabrics. Following are the new and old prices:

	New Price	Old Price
Seven-passenger phaeton..	\$1,975	\$2,200
Four-passenger phaeton..	2,075	2,300
Cabriolet .....	2,450	2,750
Sedan .....	2,775	3,000
Coupé .....	2,950	3,100
Touring limousine.....	3,800	3,400
Limousine .....	3,650	3,650

(Continued from page 41)  
happened from November 11th up to the present time. America has covered herself with glory in this war, but we are still a long way from victory."

George M. Graham, chairman of the motor truck committee of the National Automobile Chamber of Commerce, was more explicit. "We're learning a lot about water as July 1 approaches," he said. "Even our administration is amphibious. Sometimes it's on land and sometimes on sea. Sometimes it's so much at sea that it for-

gets the rest of us are on land." Both speakers were applauded vociferously.

Captain Rickenbacker then told briefly of some of his flying experiences over the German lines. He laid particular stress, however, upon the heroic achievements of the American doughboys. It was they, he said, who won the war.

"I was flying several hundred feet above a village at the time it was being taken by the Americans," he said. "It was a hand-to-hand battle. Probably no one, not situated as I

was, directly above, could ever have witnessed a scene of such terrible violence.

"The next morning I motored to the village, then safely in American hands. On the outskirts of the town were two dead men—an American doughboy with his fingers stiffened in death into the throat of a German. The German's bayonet was plunged deep into the infantryman's heart. They—the doughboys—are the real aces, as one of the boys in my squadron remarked."

It was Bishop Fallows who

wrote the tribute to "Rick" on the menu cards, in which the air fighter was referred to as the "Magellan of the skies."

Thursday was "Rickenbacker" day in the Victory Loan drive, and the commander of the famous "hat-in-the-ring" squadron held court in the forum on Victory Way, as Michigan Avenue has been rechristened. On Friday evening he delivered his lecture at the Auditorium—CHICAGO AUTOMOBILE TRADE ASSOCIATION.

TIMOTHY D. BEARD,  
Executive Secretary.



# PRODUCTION NEWS

## PRODUCTION UP 23% IN MONTH OF APRIL

*Michigan and Ohio Makers  
Boost Output from 5741  
Daily in April to 7084  
in May*

DETROIT, May 3—Production figures for Michigan and Ohio show that approximately 7084 motor cars were made daily during April. This is an increase of 1353 cars over the daily March production of 5741 cars, and nearly two and a half times greater than the production of January, when 2984 machines were turned out each day.

The unprecedented pile of sales orders in the hands of manufacturers makes it evident that if every factory could double its production every car would have an immediate sale. The demand for cars is greater to-day than at any other time in the history of the automotive industry. Demand exceeds production of practically every company from 33½ to 70 per cent.

If the majority of the plants increase production during May, as many are now endeavoring, daily production for the present month will average approximately 10,000 cars, and the month of June will see it reach a high mark under present manufacturing conditions. So great is the demand that many plants are rushing work on new building units. This is noticeably true of the Jordan Motor Car Co., Cleveland, which proposes to build a new plant greater than its present establishment. The Hudson Motor Car Co. is pushing work to the limit on new units to handle Essex production. Scripps-Booth will have a new factory this fall. General Motors expansion plans call for greatly increasing the manufacturing facilities of Buick, Oakland, Oldsmobile, Cadillac, Chevrolet and its other passenger car units.

All parts makers are experiencing an equally great rush of business and are unable to keep up with orders. As a result the companies depending upon them for parts are obliged to limit production to their supply.

Parts makers have not switched from war to peace basis with the same rapidity as the motor car companies, and as a result are just beginning to reach capacity production. They have been harder hit by the hold-up of funds on government contracts, but this disadvantage has lately been overcome by the willingness of the Government to advance 70 per cent of the money they claim is due them, leaving the remaining 30 per cent to be paid when the contract claim is finally approved at Washington.

Car	January	February	March	April
Barley .....	..	4	10	12
Buick .....	100	400	450	500
Briscoe .....	30	50	50	75
Cadillac .....	55	60	80	100
Chalmers .....	30	65	70	80
Chandler .....	..	50	90	60
Chevrolet .....	..	300	350	700
Columbia .....	8	10	15	18
Dodge .....	300	375	400	500
Essex .....	30	50	50	100
Ford .....	1,300	2,000	2,400	3,000
Grant .....	25	35	50	50
Harroun .....	4	4	10	15
Hudson .....	30	50	50	100
Hupp .....	38	55	65	75
Jordan .....	..	..	..	12
King .....	..	4	10	10
Liberty .....	15	15	25	30
Maxwell .....	150	150	220	250
Oakland .....	160	160	200	..
Oldsmobile .....	..	110	140	140
Olympian .....	4	5	10	12
Overland .....	320	400	442	600
Packard .....	..	..	1	25
Paige .....	50	50	55	70
Paterson .....	10	10	10	15
Saxon .....	10	50	65	50
Scripps-Booth .....	20	40	45	45
Studebaker .....	150	150	175	200
Total.....	2,984	4,822	5,741	7,084

Detroit automobile manufacturers have encountered considerable difficulty in obtaining a steady flow of castings from the foundries due to labor trouble. During April, 13 Detroit foundries were tied up by strikes. Seven are still affected, but 6 of the strikes have been settled. The companies all have had trouble in various departments, but in almost every instance the workers returned to work in the course of a few hours. However, suspension of operations for even a brief period had a marked effect on production, causing the April output of a number of concerns to fall short of schedule. Daily production figures are given herewith.

**Ford Building 3,000 Daily**

DETROIT, May 3—The Ford Motor Co. hereafter will assemble its cars for Michigan at the plant instead of at the factory branch, which was sold last week to a local real-estate company for approximately \$1,500,000. Plant assembly will not take place until after Nov. 1, on which date the company turns over its 10-story branch building to the new owners.

The company is now running 3,000 cars daily, and approximately 300 cars are assembled daily at the factory branch for Michigan trade. On April 8 the company completed Model T engine No. 3,000,000. The first Model T engine was cast in 1908 and has been changed but little since that time. There are now

approximately 3,150,000 Ford engines in operation.

**Studebaker to Make 500 Cars Daily**

SOUTH BEND, MAY 2.—The Studebaker Corp. will have capacity for 500 cars per day when the extensive additions now building here are completed. These will include a group of buildings to occupy 61 acres and give from 3,000,000 to 4,000,000 sq. ft. of floor space; 12,000 persons will be employed. This is all in addition to the present Studebaker plant.

**King Dealers Want More**

DETROIT, May 2—King dealers all over the country have sold their quotas and are out for more. Dealers are coming in person from far states in an effort to secure machines. The Detroit distributor has sold 40 since Jan. 1 and has orders for 35 more for immediate delivery if he can secure the automobiles. The company is running 15 cars daily and is preparing for a production increase.

**Haynes Output to Be 15,000**

KOKOMO, May 3—The output of The Haynes Automobile Co. will be increased to 15,000 cars annually, according to plans which were decided upon at a recent meeting of the directors of the company. Directors have voted to construct a large new factory building and a forge shop, and to increase the capital



stock from \$3,500,000 to \$5,000,000. A. G. Seiberling was elected second vice-president. He will continue as general manager. March Haynes, son of Elwood Haynes, president of the company, was chosen assistant treasurer and secretary.

#### Briscoe To Design French Car of American Parts

DETROIT, May 3—Benjamin Briscoe, of the Briscoe Motor Corp., Jackson, Mich., has been elected a director of Bellanger Frères, Paris, France. He will design a moderate-priced car for the French company along French lines but of American parts to a large extent. He has opened an office here; and has associated with him Rodolphe Stahl, an engineer who has been with him in his companies for 9 years.

#### Scripps-Booth Producing 45 Daily

DETROIT, May 2—The Scripps-Booth Corp. will be housed in its new \$1,500,000 factory this fall. While this plant is in construction, production of the present plant will not be affected. The company is turning out 45 cars daily, while the demand calls for 50 per cent more cars than can be produced. The company is exporting 150 cars monthly. Its California distributor has just placed a standing order for 300 cars a month.

#### Chandler Turns Out 16 Daily

CLEVELAND, May 2—The Chandler Motor Car Co. is unable to build cars fast enough to supply the demand. The sales are from three to four times greater than any previous times in the company's history. The company hopes to produce 2500 machines this month and 3000 in June. At present the company is running approximately 16 cars daily. The Chandler people hope to build more cars this year than ever before.

#### Paterson Swamped with Orders

FLINT, May 2—The Paterson Motor Car Co. is swamped with orders for cars. The company is running 15 machines daily and is preparing to greatly increase this production. The company has encountered some difficulty in securing material, but this situation has been greatly relieved within the last three weeks.

#### Packard Production Increasing

DETROIT, May 2—The Packard Motor Car Co. is running up its production rapidly. Two hundred passenger cars and 750 trucks were produced in April. In May 350 passenger cars will be turned out, while June and July production calls for 500 cars monthly.

#### Harroun Production 15 Daily

DETROIT, May 2—The Harroun Motors Corp., Wayne, Mich., is now running 15 cars daily. Within the next 30 days the company hopes to produce 25 cars per day. The company is swamped with orders and could sell all the cars it can make within the next 6 months.

## DELIVERIES IN IOWA. 30 TO 60 DAYS BEHIND

### Rain Has Prevented Salesmen Getting Out But There is a Shortage Anyway

DES MOINES, May 1—Deliveries of automobiles throughout this portion of Iowa are from 30 to 60 days behind schedule. In other words, sales are practically ahead of possible deliveries from the factories. Owing to the almost incessant rainy weather which has continued since last November, distributors have not been able to deliver cars to dealers. There has scarcely been a 24-hour period when it has been dry enough to make deliveries. Many cars which have been paid for more than a month and six weeks are on the distributors' floors in this city.

Retail sales in Des Moines have been moving along steadily, but many of the dealers who include in their territory Polk County, in which Des Moines is located, have not as yet had any salesmen going through the country and it is expected as soon as the weather clears up that sales to farmers will begin in great quantities and that demand may run 60 days ahead of deliveries.

With all classes of cars, the closed-car business is growing very materially. The coupé sells particularly well, not only in cities, but has a strong growing clientele with the farmer. A year ago the sedan sold heavily with the farmers, but its sale has dropped off perceptibly in the last 10 months, the farmer apparently having discovered that it is not such an ideal country car as he anticipated. The trouble is the impossibility of using the sedan for any kind of market work. It is exclusively a passenger vehicle, and while appealing strongly to the farmer as such it is sadly lacking in not being otherwise usable.

Motor trucks are selling in great numbers to farmers, although such sales have been slow for many weeks. Iowa roads are practically as bad as they were 10 or 12 years ago, with the possible exception that they dry out a little sooner than they did then, due to better drainage of the adjoining farms and better ditches on the road side.

Those farmers who have purchased trucks are using them for delivering grain to the market as well as delivering live stock. Very few are using them much about the farm. Sentiment is pretty general that as soon as Iowa secures permanent roads every farmer in the state will be a motor truck owner. At present the poor roads constitute the limiting factor of truck sales.

#### Pullet in Production

MINNEAPOLIS, May 5—The Pullet Tractor Co. has reached the production stage and the tractor will make its appearance in the Northwest trade this

year. The Pullet is a 4-plow machine of original design and was shown for the first time at the Industrial Exposition this year at Minneapolis.

#### To Make Truck in Los Angeles

DETROIT, May 5—J. Neil Patterson, Los Angeles, Cal., is in Detroit completing plans for a company to be organized to manufacture trucks and trailers in Los Angeles. He was former president of the Los Angeles Trailer Co. and he is now vice-president of that concern. The new company will bring out a truck to be known as the Patterson, and will be made of standard parts. Robert Fry of Detroit, until recently with the engineering department of the Motor Transport Division of the Army, is associated with Patterson as chief engineer.

#### American Motors Increases Capital \$500,000

NEW YORK, May 3—In order to increase the output of its plant at Plainfield, N. J., the American Motors Corp. has made a stock issue of \$500,000. In May the company is scheduled to build 150 cars, in June 200, and in July and thereafter, 250 per month. At the director's meeting, P. W. Hansl was elected vice-president and supervisor of sales. He has been secretary and treasurer of the company for years. George G. Gates succeeds him as secretary. G. A. Brewer, president of the Penn-American Motor Car Co., Philadelphia, was elected a director. George W. Craven continues as a director, and Laurence P. Rife, formerly production manager of the Hudson Motor Car Co., who has been factory manager since March 1, is also a director of the corporation. Robert Bursner remains president and Louis Chevrolet first vice-president.

#### Maibohm Will Move to Sandusky

RACINE, WIS., May 5—When its \$175,000 plant is completed at Sandusky the Maibohm Motors Co. will move its entire organization to that city. The executive offices and a portion of the manufacturing end have already been moved, occupying temporary quarters in Plant No. 5. The new plant will comprise approximately 75,000 sq. ft. and is expected to be ready for occupancy in about 60 days.

#### Nonnes Buys Norma Stock

NEW YORK, May 5—Walter M. Nonnes, who has been president and general manager of the Norma Ball Bearing Co. since its formation in 1911, on Saturday purchased all of the foreign controlled stock of the company at a sale of the Alien Property Custodian. A total of 1950 shares valued at \$500,000 thus becomes the property of Nonnes and his present business associates. The business will be enlarged and expanded as conditions warrant. Executive control of the business has been vested in Nonnes since the formation of the company, and there will be no changes in the administration.



## CURTISS APPOINTS 11 AIRCRAFT DEALERS

**Company Has Number of Commercial Machines Ready—  
Builds Sales Organization**

NEW YORK, May 1—The Curtiss Aeroplane & Motor Corp. has entered upon the production of aircraft for commercial purposes and has so far completed its arrangements as to establish eleven distributors in the United States and several in foreign countries. Sales headquarters have been opened at 52 Vanderbilt Avenue under the supervision of J. P. Davies, formerly an officer in the U. S. Air Service. Distribution will follow closely the plan of the Willys-Overland Co., with which the Curtiss company is affiliated. Following are the principal distributors and their territories:

American Trans-Oceanic Co., 505 Fifth Avenue, New York—Greater New York, Long Island, Westchester County, Rockland County, Fairfield County, Conn.; Hunterdon, Somerset, Middlesex and Monmouth counties, New Jersey, and the State of Florida. P. L. Freeman is manager.

Curtiss Eastern Airplane Co., 130 South 15th Street, Philadelphia.—States of Pennsylvania, Maryland and Delaware, and Cumberland, Salem, Gloucester, Camden, Mercer and Burlington counties, New Jersey. G. Summer Ireland, president and general manager.

Curtiss Southwest Airplane Co., 804 New Wright Building, Tulsa, Okla.—State of Oklahoma, and northern counties in Texas. B. L. Brookins, general manager.

Curtiss Northwest Airplane Co., 701 Metropolitan Bank Building, Minneapolis.—States of Minnesota, Montana, South Dakota and North Dakota. W. A. Kidder, general manager.

Curtiss Tri-State Airplane Co., 274 Shelby Street, Memphis.—States of Tennessee and Arkansas and northern counties of Mississippi. W. S. Thompson, general manager.

Curtiss Humphreys Airplane Co., First National Bank Building, Denver.—States of Wyoming, Colorado, Utah and New Mexico. I. B. Humphreys, general manager.

Curtiss Aircraft Co., Atlantic City, N. J.—Cape May, Atlantic and Ocean counties, N. J.

In addition to these, distributors have been appointed for Norway, Sweden, Finland and the Philippine Islands. George W. Browne, manager of the Overland agency in Milwaukee and the Gibson Co., Overland dealer in Indianapolis, have been appointed local Curtiss dealers. A branch office has been opened in Chicago, with George W. Browne as western representative.

The Curtiss company has adapted a number of its planes for commercial uses. Among these are the JN-4D-2 type, which was used almost exclusively for training

purposes by the American and Canadian governments: The MF flying boats, the HS-2L flying boat, the H-16-A flying boat, the 18-B land machine and a new three passenger plane which has been developed particularly for passenger service and which is styled "Oriole."

It is expected that within a short time a number of used machines of the JN type will be placed on the market at from \$2,000 to \$5,000. Prices of the other models have been set as follows:

MF-flying boat .....	\$10,000
HS-2L flying boat.....	25,000
H-16A flying boat.....	40,000
18-B land plane.....	25,000
Oriole land plane.....	7,500

## Howard Spohn Again with Class Journal

NEW YORK, May 5—After something over 2 years as commercial manager of the U. S. Ball Bearing Mfg. Co. in Chicago, Howard L. Spohn has returned to The Class Journal Co. Spohn was connected with the Class Journal Co. for 7 years previous to his going West, and upon his return to New York he takes up the same general duties he was performing prior to his venture in the manufacturing world.

## Anthony to Distribute Dort

FLINT, MICH., May 3—The Dort Motor Car Co. is running more cars daily than ever before since the company was organized. Daily production is hitting the hundred-car mark. The company has three times as many orders as it has cars. The entire production for the months of May and June is already contracted for.

Hereafter the Earl C. Anthony Co., Inc., will handle Dort distribution on the Pacific Coast. This company succeeds the Frawley Motor Car Co. of San Francisco as coast distributor, and the Leach Motor Car Co., Fresno, as distributor. The headquarters of the Anthony company are in Los Angeles, but the firm maintains seven branches throughout the state, being represented in San Francisco, San Diego, Fresno, Stockton, Sacramento, Oakland and San Jose.

## MOTOR CAR SECURITIES

New York Stock Exchange Closing Quotations May 3, 1919:

	Bid	Asked
Chandler .....	143 3/4	145
General Motors, com.....	181	181 1/2
General Motors, pfd.....	92 1/2	93 1/2
General Motors, deb.....	90	90 1/2
Maxwell Motor, com.....	40	40 1/2
Maxwell Motor, 1st pfd.....	68 1/2	69
Maxwell Motor, 2d pfd.....	30	31
Pierce-Arrow, com.....	51	51 1/2
Pierce-Arrow, pfd.....	104	105
Saxon .....	8	8 1/2
Studebaker, com.....	77	77 1/2
Studebaker, pfd.....	99	100
Stutz .....	59 1/2	59 3/4
White .....	61 1/2	62
Willys-Overland, com.....	34 1/2	34 3/4
Willys-Overland, pfd.....	95 1/2	96 1/2
Fisher Body, com.....	57	59
Fisher Body, pfd.....	95	100
Goodrich, com.....	73 1/2	73 3/4
Goodrich, pfd.....	107 1/2	108
Kelly-Springfield, com.....	127 1/2	128
Kelly-Springfield, pfd.....	94	96
Kelsey Wheel, com.....	39	42
Kelsey Wheel, pfd.....	90	94
Keystone Tire & Rubber.....	98 1/2	98 3/4
Lee Rubber & Tire.....	35 1/2	36
Stewart-Warner .....	93	99 1/2
Stromberg Carburetor.....	46 1/2	47
U. S. Rubber, com.....	98 1/2	98 3/4
U. S. Rubber, pfd.....	112 1/2	112 3/4

## IOWA ORGANIZATION NOW COMING NICELY

**Knapp, of Waterloo, Engaged as  
Secretary—Black Hawk  
County Comes In**

DES MOINES, May 1—The organization of the Iowa Motor Trades Bureau, which is the state organization of dealers, is well under way. At a meeting to-day the constitution and by-laws were passed upon and headquarters officially opened in this city. Andy Knapp, formerly secretary of the Commercial Club, Waterloo, Iowa, has been engaged as state secretary and started his work in Des Moines to-day. Many organizations throughout the state have already joined and at to-day's meeting were representatives from Waterloo, Cedar Rapids, Marshalltown, Carroll, Mason City, Ft. Dodge and other points.

From Mason City 40 members have joined, which includes not only every dealer and garageman in the city but every other organization connected with the industry, such as paint shops, etc. Over 40 members are coming in from Ft. Dodge and a similar number from many of the other cities. It is planned to have every dealer and garageman as well as others connected with the industry in the state a member in the next six months.

To-night the Des Moines dealers had 165 of their members and visiting dealers at their regular monthly dinner held in the Chamber of Commerce rooms. David Beecroft, directing editor of the Class Journal Co., spoke on the dealers' problems in Europe during the war and also on his experiences over the war zone in January. The Des Moines dealers on May 12 are going to give a testimonial dinner to Capt. Eddie Rickenbacker and have taken the entire Coliseum for that date.

## Des Moines Trade Hears Beecroft

DES MOINES, May 3—Two hundred Iowa motor car dealers, garagemen and their employees heard David Beecroft, directing editor of the Class Journal Co., give a vivid description of his travels through the war zone, at the regular monthly meeting of the Des Moines Motor Trades Bureau, May 1. Beecroft's address drew almost as many motor car men from outside of Des Moines as there were from the city. Members of the directory board of the newly organized Iowa Motor Trades Bureau were among the visiting motor car men. The motor trades men were particularly interested in Beecroft's discussion of the automotive conditions in the warring countries.

Beecroft urged his hearers to prepare for the responsibilities which confront the motor car interests in taking a part in civic matters and encouraged the dealers to take a broad viewpoint in the improvements which are to mean so much for the people of Iowa.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

**W. C. Biddle**, assistant sales manager of the Franklin Automobile Co., Syracuse, has resigned to form the Franklin-Biddle Co., Toledo, dealer in Franklin cars. **E. P. Johnson**, a member of the sales force since 1915, will succeed Biddle.

**John J. Plath**, who resigned as general sales manager of the Maxwell Motors Corp. to become commercial manager of Harroun Motors Corp., has again joined the Maxwell sales force.

**J. S. Hollman**, former sales manager of the Standard Motor Truck Co., Detroit, has joined the sales force of the Garford Motor Truck Co., Lima, Ohio.

**J. Berg**, formerly of the Stewart Warner Speedometer Corp., has been appointed chief engineer of the speedometer department of the Champion Ignition Co., Flint.

**Paul Le Croix**, general manager of the Rubay Co. plant, Cleveland, has been elected vice-president of the company.

**C. Given** succeeds **O. S. Tweedy**, resigned, as vice-president and general manager of the L. A. Young Industries, Detroit.

**P. F. Minnock**, manager of the Des Moines Ford branch plant for the past 18 months, has been made manager of the Kansas City plant. Pending the naming of a successor to manage the local plant Minnock will divide his time between Des Moines and Kansas City.

**George R. Lindblom**, former assistant manager of the sales promotion department of the Willys-Overland Co., has been made manager of the retail sales department of the Clemens Auto Co., Des Moines.

**M. M. Whorley**, branch manager Firestone Tire & Rubber Co., Syracuse, N. Y., has resigned said position to become secretary and general manager of Wilson & Greene Motor Co., Ford distributor, Syracuse, N. Y.

**W. R. Mason**, Albany, N. Y., has been appointed sales representative of the O. Armleder Co., Cincinnati, to cover the state of New York.

**Steward Slosson** has been appointed Pacific Coast manager of the Rubber Products Co. He was for several years Coast representative for Firestone motorcycle tires. The Rubber Products Co. is increasing its manufacturing and storage space at its Barberton, O., factories. Additional office space is also planned.

**F. H. Prescott** has been appointed designing engineer on motor and generator equipment for the Remy Electric Co. Before going into government service as 2nd lieutenant in the Engineering Reserve Corps, he was a designing engineer in the automobile equipment section of the Westinghouse Electric & Mfg. Co. for two years.

**Martin K. Whalen** has joined the force of the International India Rubber Co., South Bend, as its southern representative. He has been acting as special representative for Century Plainfield Tire Co.

**Andrew V. Terek**, recently released from the Naval Aviation service, has returned to the Bantam Ball Bearing Co., Bantam, Conn., as master mechanic in charge of the up-keep of the factory.

**George W. Franklin**, formerly of Detroit, is now manager of the Securities Motor Corp., Los Angeles. This organization succeeds the Leach Motor Car Co., distributor of the Mitchell and Premier in Southern California.

**F. M. House**, with the Republic Truck Co., Alma, Mich., for many years, has been made Pacific coast manager of that company with headquarters at Portland.

**C. V. Durham**, with the Buick Motor Car Co., Flint, for many years, has been promoted from general superintendent to works manager of the Buick plants.

**Eugene W. Lewis**, former vice-president of the Timkin-Detroit Axle Co., has returned to Detroit from Washington, where he was with the chief production branch of the general staff of the army. He will not return to active duty with the Timkin company, but will devote his time to private interests.

**H. E. Westerdale**, sales manager of the Heath-Duplex department of the McCord Co., and with Ward Keller, Eastern sales manager, has resigned to form the Lexington-Ohio Co., Cleveland. The new firm will handle the Lexington.



WILLIAM HYSLOP

*In the death of William Hyslop, who died at his Toronto home on April 26, the Canadian industry has lost one of its pioneers and most prominent men. Mr. Hyslop, who was president of Hyslop Brothers, Ltd., when he died, first entered the trade in 1888 in partnership with his father. In 1890 he organized the present company; his brother died several years ago. The company is one of the largest jobbers of automotive equipment in Canada, handles bicycles as well, and is Cadillac distributor for Eastern Canada, from Manitoba to the Atlantic Coast. Mr. Hyslop was born in Hamilton, Ont., in 1871.*

**Earl A. Stone**, formerly manager of the Detroit branch of the Wheeler-Schebler Carburetor Co., Indianapolis, has been appointed sales manager of the company to succeed **George T. Briggs**, who resigned.

**G. Elmo Holke**, formerly assistant secretary of the National Automobile Dealers' Association, has been appointed assistant advertising manager of the Traffic Motor Truck Corp., St. Louis.

**F. S. Davis**, formerly with the Buick Automobile Co., and recently chief gunner's mate

in the Navy, has joined the office sales force of the Traffic Motor Truck Corp., St. Louis.

**H. E. Johnston** has become assistant to the president in charge of sales of the Onelda Motor Truck Co., Green Bay, Wis.

**Captain Wakeman Hackett**, who has just returned from France and received his discharge from the 121st Field Artillery, 32nd Division, after 20 months of service, has become associated with the Oshkosh Motor Truck Mfg. Co. as factory representative covering the Middle West territory.

**Ray Wice**, for several years a salesman with the Hudson-Phillips Motor Car Co., St. Louis, has returned to that city to be connected with the Hudson-Frampton Motor Car Co., after having sold Hudson cars in Cleveland for the last 4 months. **E. C. Anderson** has been made wholesale territorial manager for the company.

**F. H. Haack** has been appointed manager of service for the Moerschell Electric Co., St. Louis representatives for Connecticut Ignition, Splittdorf magnetos, Webster oscillators and U. S. L. batteries.

**Alfred Faber**, formerly of the Automobile Ignition Co., and **James McGarity**, formerly of the Chandler Motor Car Co. and the Packard-Missouri Motor Car Co., have joined the service staff of the Automotive Electrical Service Co., Inc., Delco, Remy, Northwest and Klaxon service distributors in St. Louis.

**J. L. Steele**, formerly with the Pennsylvania Rubber Co., Philadelphia, and **W. C. Pfeiffer**, formerly a motor car dealer in St. Louis, are recent additions to the sales force of the Neskov-Mumperow Motor Car Co., Anderson distributor and Dort retailer in St. Louis.

**J. E. Weber** succeeds **W. Milton Koenig** as advertising manager of Weber Implement & Automobile Co., distributor in St. Louis of the Chalmers, Maxwell and Hupmobile.

### J. I. Case Deny Rumor

**Editor Motor World:** We have heard of rumors circulating throughout the country to the effect that the J. I. Case Plow Works and the Wallis Tractor Co. have been shut down because of labor difficulties, and a few other such reasons.

It is true that the J. I. Case Plow Works and the Wallis Tractor Co. have shut down for a period of 30 days or so, because we deem it advisable at this time of the year to take inventory, repair and put up new machinery in order to handle our increased volume of business. Rumors giving other reasons as a basis for shutting down our factory are absolutely unfounded.

We wish to acquaint you with the situation as it now stands, so that none of these rumors will appear in your publication.—**J. I. Case Plow Works, A. M. Semones, Advertising Manager.**

### Wire Wheel Works President Dead

**GENEVA, N. Y., May 5**—**Wallace W. Page**, president of the National Wire Wheel Works and secretary of the Geneva Cutlery Corp., died last week of pneumonia.

### Robinson, Case Director, Dies

**RACINE, May 5**—**Frederick Robinson**, director and former vice-president of the J. I. Case T. M. Co., died at his home in Racine on April 22.



## Dealers Must WORK to Be Successful Selling Tractors

**Herring, Who Sold 1300 Fordsons at Retail in April, Believes  
Automobile Man Is Logical Tractor Dealer—But He  
Must Sell, Not Merely Take Orders**

DES MOINES, May 2—In spite of six weeks' almost continuous rain in Iowa and surrounding territory, the Herring Motor Co., Fordson distributor for Iowa, Nebraska and South Dakota, made 1300 retail Fordson sales during April. This report from 506 dealers indicates that the rain is not completely holding up tractor sales. Many tractors have been sold for weeks but deliveries cannot be made.

Clyde L. Herring is exerting every effort to make the sale of tractors an all-the-year proposition rather than having a peak sales period in July, August and September, which are the best months for tractor sales. Many towns are purchasing tractors for road dragging, horses having been formerly used for this.

The Herring organization is one of the best examples in the Mississippi Valley of an automotive dealer handling the farm tractor. Herring declares that the greatest trouble with many dealers is that they have forgotten how to work and while handling automobiles only they have become order bookers rather than salesmen.

Herring believes the automobile man is the logical person to handle tractors and that to make a success of it the dealer must start working and carrying on real salesmanship. Many dealers have made successes in the automobile industry who have not deserved it and unless they display more salesmanship they cannot be a success in the tractor field.

The Fordson tractor is being handled solely by Fordson dealers and those making the greatest success of the tractor business are under separate men who handle it exclusively. In many cases these young men are taken from the farm implement field, where they have become familiar with farm implements of all kinds and are also familiar with the various aspects of farming and are able intelligently to discuss all the problems of agriculture with the farmer.

Fordson dealers are following the plan of demonstrating to farmers. In dry weather the demonstrating tractors are carried on motor trucks, but this has been impossible for many weeks.

### "I'm Not Ready to Buy Yet"

(Continued from Page 17)

not get his for a month. Show him where this month is on the calendar. Tell him a delay of two weeks may mean a delay of six weeks. Show him where six weeks hence is on the calendar. Tell him that a delay of a month may mean a delay of three months. Show him where these various spots are on the calendar.

"Then show him that good touring weather is here now and that the summer ends about the end of September. Show him on the calendar how many days of wonderful weather he is losing. Point out on the calendar when the hot spell starts and when it ends, and talk to him of the essential character of a car when the hot spell is with us. Get this matter of TIME firmly fixed in his mind, and then ask him on what date he expects really to buy.

"This asking him to point out on the calendar the day when he is going to buy, so that you can carry your illustration further, will probably be a poser to him, because he probably hasn't any real excuse for not buying now. But if he should point out a date, you are then in position to figure out how many days he will be deprived of the use of the car by his delay.

"You know, I have tried this and found it to work sometimes: Stroll over to the window with him, or, in our closing room, let down the curtain in a casual way, and watch the cars going by. You can do this in a house, or an office, or anywhere if there is a good traffic street. Point out the great number of cars and then point out a few men who don't seem to be men of any great means, yet who OWN cars. Immediately he probably will think of a lot of people he knows who have cars, yet who are less able to own them than he is.

"Then tell him something like this: 'You know, Mr. Prospect, owning a car is a peculiar thing. I have known lots of people who have bought cars, little old cars that didn't cost much, and then they have kept getting better and better cars, until to-day they own cars of very good make. Somehow or other they seem to progress in business and life just about the same as they progress in cars. You know, Mr. Prospect, if I were you I think I'd have a car just as soon as I could get it. I wouldn't wait a day. We have three in stock now. You can have one of them in the morning.'

### May Have Victimized Other Dealers

BOSTON, May 3—A man styling himself Frank Adams and claiming to be an attorney at Philadelphia wrote letters recently to dealers in Boston stating that he had seen advertised certain cars among their used vehicle lists, and as he was coming to Boston to try an important case he would look in on them and see the cars advertised. He came along, very suave, and at three places so far as known he picked out fine cars, a Locomobile, Pierce-Arrow and a Packard. He handed out checks, certified of course, and managed to get away with the three machines. The checks came back. Then

the dealers woke up and notified the police. A few days ago they were notified that the man had been arrested at New York and the cars recovered. Also that he had put over some alleged crooked deal in that city and they were holding him there. But the Boston dealers were not interested in that part of it so much as they were to get back cars that were sold approximately at \$3500 each.

### Indianapolis to Have 43 Starters

NEW YORK, May 5—On May 1, the closing of the entries for the Indianapolis 500-Mile Victory Sweepstakes race for May 31, 43 entries appear on the list. There are still four drivers to be named, for a Hudson special, a Detroit special and two Premiers. Omar Toft will drive his old Miller special under the new name of Darco special. Tom Alley has entered with a Bender special, a car built by him for C. J. Bender, president of the Ahlberg Bearing Co. The car has a 4-cylinder engine, with 3% in. bore and 7 in. stroke, giving a displacement of 289 cu. in. Following are the entries:

Clifford Durant.....	Chevrolet special
Dario Resta.....	Sunbeam
Jean Chassagne.....	Sunbeam
H. C. Simmons.....	Hudson special
J. M. Reynolds.....	Hudson special
Eddie Pullen.....	Hudson special
W. W. Brown.....	Richards special
Eddie O'Donnell.....	Duesenberg special
Wilbur D'Alene.....	Duesenberg special
Tommy Milton.....	Duesenberg special
Kurt Hitke.....	Roamer-Duesenberg
Jules Goux.....	Peugeot special
Ray Howard.....	Peugeot special
Arthur Klein.....	Peugeot special
Louis LeCocq.....	Roamer special
Ralph DePalma.....	Packard special
Earl Cooner.....	Stütz special
Ralph Mulford.....	Frontenac special
Louis Chevrolet.....	Frontenac special
Denny Hickey.....	Stickel special
Arthur Thurman.....	Thurman special
Elmer P. Shannon.....	Mesaba special
Eddie Hearne.....	Durant special
Roscoe Sarles.....	Oldfield special
Dave Lewis.....	Duesenberg special
Omar Toft.....	Darco special
J. J. McCoy.....	McCoy special
A. E. Cotey.....	Ogren special
Ira Vail.....	Hudson special
Joseph Boyer.....	Frontenac special
P. W. Monahan.....	Johnson special
Andre Bollot.....	Peugeot special
.....	Detroit special
Gaston Chevrolet.....	Frontenac special
Tom Alley.....	Bender special
.....	Hudson special
.....	Premier
.....	Premier

### Uniontown Entry List Lengthens

NEW YORK, May 5—The complete list of entries for the 112-mile Uniontown race for May 17 as received so far by the Contest Board of the American Automobile Association includes:

Louis LeCocq.....	Roamer special
Kurt Hitke.....	Roamer special
Eddie Pullen.....	Hudson special
Cliff Durant.....	Chevrolet special
Harold Simmons.....	Hudson special
Wilbur D'Alene.....	Duesenberg special
Dennie Hickey.....	Stickel special
Ray Howard.....	Peugeot special
P. W. Monahan.....	Johnson special
Joseph Boyer.....	Frontenac special
Louis Chevrolet.....	Frontenac special
Gaston Chevrolet.....	Frontenac special
Eddie Hearne.....	Durant special

### Maxim Drops Maxim Silencer

MILWAUKEE, MAY 2.—The Geuder, Paeschke & Frey Co. is now manufacturing the Maxim silencer, formerly manufactured by the Maxim Munitions Corp.



## COMING EVENTS

### Passenger Car and Truck Shows

Bristol, Va.-Tenn. .... May 10-17..... Cars, Trucks, Tractors, Airplanes and Accessories.  
Bristol Chamber of Commerce. C. W. Roberts, Manager.

### Foreign Shows

Paris, France..... Oct. 15 ..... Grand Palais—International Automobile Manufacturers' Congress.  
London, England..... November ..... Olympia—International Automobile Manufacturers' Congress.

### Meetings

Washington, D. C. .... May ..... Pan-American Commercial Conference, Pan-American Union Bldg.  
Chicago, Ill. .... June 2..... National Gas Engine Assn., Hotel Sherman.  
Hot Springs, Va. .... June 2-6..... Convention, Automotive Equipment Assns., Homestead Hotel.  
Ottawa Beach, Mich. .... June 23-27..... Summer Meeting, S. A. E.  
Philadelphia, Pa. .... Sept. 22-25..... Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

### Exhibits

Venezuela, S. A. .... May 15-June 1.... National Exhibit of Venezuela.

### Contests

Atlantic City, N. J. .... May 1..... Airplane race, Aeronautic Convention.  
Atlantic City, N. J. .... May 3..... Airplane race, Aeronautic Convention.  
Uniontown, Pa. .... May 17..... Probably 112½ miles.  
Atlantic City, N. J. .... May 30..... Airplane race, Aeronautic Convention.  
Los Angeles, Cal. .... May 30-31..... Third Annual, Los Angeles-Yosemite gasoline economy run.  
Indianapolis, Ind. .... May 31..... 500-Mile Sweepstakes, Indianapolis Speedway.  
\*Sheepshead Bay, N. Y. .... June 14..... Speedway.  
Atlantic City, N. J. .... July 4..... Airplane race, Aeronautic Convention.  
Tacoma, Wash. .... July 4..... Speedway.  
Cincinnati, O. .... July 5..... Speedway.  
Uniontown, Pa. .... July 19..... Mid-Summer Meet, Speedway.  
Sheepshead Bay, N. Y. .... July 26..... Speedway.  
\*Middletown, N. Y. .... Aug. 15..... Dirt track event.  
Elgin, Ill. .... Aug. 22-23..... Road race.  
Sheepshead Bay, N. Y. .... Aug. 23..... Speedway.  
Uniontown, Pa. .... Sept. 1..... Speedway.  
Sheepshead Bay, N. Y. .... Sept. 20..... Speedway.  
\*Allentown, Pa. .... Sept. 27..... Dirt track event.  
Cincinnati, O. .... Oct. 1..... Speedway.  
\*Trenton, N. J. .... Oct. 4..... Dirt track event.  
\*Danbury, Conn. .... Oct. 11..... Dirt track event.  
\*Tentative dates.

### Tractor Demonstrations

Fresno, Cal. .... Apr. 29-May 1-4..... Central California Tractor and Implement Assn.  
Sacramento, Cal. .... May 6-12..... Sectional Tractor Demonstrations, Demonstration Field.  
College Park, Md. .... May 30..... Power Cultivator Demonstration, Maryland State Department of Agriculture.  
Denver, Col. .... June 8-14..... Sectional Tractor Demonstrations, Denver Tractor Club.  
Wichita, Kan. .... July 14..... Automotive Committee of National Implement Assn.  
Aberdeen, S. D. .... August 18-22..... Sectional Tractor Demonstration.  
Ottawa, Ont., Canada. October ..... Inter-Provincial Plowing Match and Tractor Demonstration.

### Aeronautical Exhibition

Atlantic City, N. J. .... May 1-June 1.... Second Pan-American Aeronautic Convention and Exhibition.

#### Record Registration in Wisconsin

MILWAUKEE, May 3.—Wisconsin is breaking all previous records for large volume of motor registry this year. Up to to-day more than 150,000 licenses for passenger cars have actually been issued, while applications on hand number at least 7500 additional. A year ago the number of licenses actually issued was less than 75,000. The total for 1918 was 189,983. So far 6450 motor truck licenses have been mailed, compared with 3500 a year ago. Total receipts from license payments so far this year amount to nearly \$1,625,000. Passenger cars pay \$10; motor trucks a sliding scale from \$10 to \$25, and dealers \$25.

#### Oregon Regulations Increase

PORTLAND, ORE., May 3.—Concrete evidence of the increased demand for motor cars in Oregon is contained in the report of the automobile license department of the Secretary of State's office for the first quarter of 1919. Up to March 31, 59,585 registrations had

been made, of which 7920 were new, compared to only 45,980 registrations at this time last year. An increase of 48 dealers in the State is shown by a registration of 444 dealers, compared to 396 on March 31, 1918.

#### Michigan May Boost License Fees

LANSING, May 3.—Automobile, truck and motorcycle license fees in the State of Michigan may be boosted by the legislature 10 cents per 100 lb. on passenger cars and from 15 to 25 cents per 100 lb. on all trucks in addition to an increased tax on truck horsepower of from 15 to 20 cents. The horsepower tax on passenger cars remains unchanged.

The license increase is embodied in a substitute measure for the Evans bill. In addition to an increase in the license fee for passenger cars and trucks a straight tax of 50 cents per 100 lb. is provided for on all trailers. It is estimated that the revenue from the increased tax will amount to approximately \$800,000 per year. The bill, it is said, will meet with little opposition in the house and senate.

## BOOK REVIEW

The American Newspaper Annual and Directory—1296 pages, royal octavo, cloth, \$10 net, carriage paid. Published by N. W. Ayer & Son, Advertising Agents, Philadelphia.

The fifty-first year of continuous publication brings us the 1919 edition of this comprehensive review of the American newspaper and magazine field.

The book is full of valuable information for all who have dealings with periodical publications of any kind. The facts and figures descriptive of each of the 23,074 publications listed are presented in a most complete, yet condensed and get-at-able form.

As always, special attention has been given to the important matter of circulation figures.

Supplementary to the general catalogue are 254 classified lists, including dailies, magazines, women's, mail order, religious, agricultural and all the various trade and class publications, covering almost every field of human effort and interest, each class listed under its own head.

An especially valuable feature is a vast amount of up-to-date gazetteer information, giving the latest population figures, including those of ten states which had censuses in 1915, and the transportation, banking and other facilities in each of the 11,189 towns in which newspapers are published, together with the leading industries, productions and other features of the place and vicinity. This descriptive matter is supplemented by a specially prepared map of each state, showing practically every newspaper town. Convenience and conciseness have been studied throughout, and the book places, at the disposal of publishers, of advertisers, of business men, of students, librarians, etc., a vast amount of fresh information not to be procured elsewhere.

#### Trade Printed Matter

Sale Quality in Tractors is a sales prospectus just issued by the Cleveland Tractor Co., Cleveland. It consists of 28 pages 10 x 14 in., the cover being in four colors. Its object is to open the eyes of tractor salesmen and merchants to the opportunity that is afforded in the tractor field, not only to those who sell tractors for a profit only but to those who also interest themselves in the real service they can render to agriculture.

#### White Service Station for Chicago

CLEVELAND, May 3.—The White Co. has purchased a site in Chicago upon which it will build a new service station. The property consists of approximately 5 acres.

In addition to enlarging and strengthening its service station in Cleveland, this company has completed a service station in Philadelphia, and has purchased land in Long Island City, where a station will be erected to take care of the New York territory.



Farm  
Tractors

## MOTOR WORLD GUIDE

Farm  
Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity
Acme	12-24	6,000		W	4	Beaver	4	4 1/2 x 6	G or K	3	Farmer Boy	10-20	3,600	1350	W	3	Waukesha	4	4 1/2 x 6	K & K	2
Allis-Chalmers	6-12	2,100		W	4	Ow	2	3 1/2 x 4	G or K	3-4	Farm Horse	16-30	4,850	1485	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Allis-Chalmers	10-18	4,800		W	4	Ow	2	5 1/2 x 7	G or K	3-4	Farquhar	15-25	6,000		W	4	Buda	4	4 1/2 x 6	G or K	3-4
Allis-Chalmers	18-30	5,300		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Allis-Chalmers	14-28	4,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farquhar	15-25	6,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
American	15-30	4,975	\$1595	W	4	Beaver	4	4 1/2 x 6	G or K	3-4	Fitch	20-35	6,800	2500	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Appleton	12-20	4,900		W	4	Buda	4	4 1/2 x 6	G or K	3-4	Flour City	14-25	6,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Atlas	16-30	5,400	1750	W	3	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Aultman-Taylor	15-30	7,500		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	30-50	14,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Aultman-Taylor	22-45	12,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Flour City	40-70	21,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Aultman-Taylor	30-60	23,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Fordson	12-20	2,700		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Austin	5-10	750		W & C	4	LeROI	4	4 1/2 x 6	G or K	3-4	Fricks	8-16	3,500		W	4	Gray	4	4 1/2 x 6	G or K	3-4
Austin	12-20	3,500		W & C	4	Buffalo	4	4 1/2 x 6	G or K	3-4	Fricks	12-25	5,800		W	4	Erd	4	4 1/2 x 6	G or K	3-4
Austin	15-30	4,500		W & C	4	Assoc. Mfrs.	4	4 1/2 x 6	G or K	3-4	Fulton	20-35	2,500	1275	W	3	Waukesha	4	4 1/2 x 6	G or K	3-4
Austin	20-40	850		W	4	Automatic	4	4 1/2 x 6	G or K	3-4	Giant	30-60	24,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Auto Tiller	8-16	850	365	W	2	Ow	2	1 1/2 x 7	G or K	2	Giant	50-75	20,000	5000	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Auto B.	5-10	550		W	3	Ow	2	1 1/2 x 7	G or K	2	Gile	20-35	6,800	2000	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Avay Cultiv.	8-16	3,050		W	3	Ow	4	3 1/2 x 6	G or K	3-4	Gray	18-36	6,000	2250	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Avay	12-25	7,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hackney	12-20	2,800		W	4	Field	4	4 1/2 x 6	G or K	3-4
Avay	14-28	7,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hackney	15-30	7,185	1385	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Avay	18-30	9,250		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hart-Parr	9-18	4,000	1070	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Avay	25-50	12,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hart-Parr	12-20	6,000	1395	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4
Avay	40-80	22,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hart-Parr	25-45	2,500	1375	W	4	Light	4	4 1/2 x 6	G or K	3-4
Bates All-Steel	15-25	4,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Holt	12-25	5,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Bates Steel Mule	15-25	4,500		W	4	Erd	4	4 1/2 x 6	G or K	3-4	Holt	20-35	2,500	1375	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Bean Track Pul	6-10	3,100	285	W	2	Ow	2	1 1/2 x 4	G or K	2-3	Holt	12-25	5,000	1385	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Beeman	12-20	4,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hudson	15-30	5,500	1985	W	4	Buda	4	4 1/2 x 6	G or K	3-4
Beltrill	15-30	6,000		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Illinois	18-36	5,000	2,250	W	4	Climax	4	4 1/2 x 6	G or K	3-4
Boring	15-30	6,000	1485	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Imperial	40-70	20,800	4500	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Boss	20-40	6,000		W	4	Model	4	4 1/2 x 6	G or K	3-4	Indiana	6-12	8,500	900	W	4	LeROI	4	4 1/2 x 6	G or K	3-4
Brillion	12-20	4,000		W	4	Field	4	4 1/2 x 6	G or K	3-4	International	18-36	5,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Buckeye	16-30	21,000	5500	W	4	Automatic	4	4 1/2 x 6	G or K	3-4	International	15-30	8,700		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Buckeye	24-45	25,000	6500	W	4	Automatic	4	4 1/2 x 6	G or K	3-4	Invincible	6-15	5,000		W	4	Wisconsin	4	4 1/2 x 6	G or K	3-4
Bull	12-24	5,000	1200	W	3	Toro	4	2 1/2 x 7	G or K	3-4	Junior	12-24	6,200		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4
Capital	15-36	4,000	1500	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Kardell	18-35	4,800		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4
Capital	20-40	6,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	K & G-German	12-24	3,800	1150	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	10-18	3,800	1200	W	4	Ow	4	4 1/2 x 6	G or K	3-4	LaCrosse	12-24	4,000	1250	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	10-30	5,000	1325	W	4	Ow	4	4 1/2 x 6	G or K	3-4	LaCrosse	15-25	6,000	1885	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	10-30	5,000	1325	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Lauson	12-20	4,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	20-40	14,000	3000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Leader	12-20	4,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	20-40	14,000	3000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Leader	18-36	6,400		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Case	12-20	3,800	1200	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Leonard	20-30	5,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Cleveland	12-20	3,800	1200	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Lenox	20-30	5,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4
C.O.D.	15-30	6,500	1395	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Lenox	60-120	5,500		W	4	Ow	4	4 1/2 x 6	G or K	3-4
Coleman	16-30	4,255	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Liberty	15-30	5,500	1200	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Common-Sense	15-25	4,500	2200	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Lightfoot	6-10	3,200	1350	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Craig	15-25	7,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Little Giant	15-22	5,200	1950	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Creeping Grip	15-25	7,000	2000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Little Giant	24-35	8,700	2900	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Dakota	15-37	5,300	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Lombard	30-32	5,000	1800	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Dart Blue J	15-30	4,500	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Master	12-24	3,855	1855	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Denning	9-16	3,800	1075	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
Denning	12-22	4,200	1375	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G or K	3-4
De L.	20-40	4,400	2480	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Maxim	15-30	6,000	1750	W	4	Ow	4	4 1/2 x 6	G	



# Trucks

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Passenger  
Cars

## MOTOR WORLD GUIDE

Passenger  
Cars

Model	Motor	Ignition	Starting Lighting	WB	Tires	Rims	2- Pass.	5- Pass.	7- Pass.	Sedan
ALLEN Series 41	4-3125	Conn	A-Lite	112	32x34	SS	.....	\$1105	.....	\$1065
AMERICAN B	6-3125	A-Kent	West	122	32x4	SS	.....	\$1835	1795	\$1865
AMERICAN BEAUTY	6-3125	G&D	G&D	121	32x34	SS	.....	.....	.....	.....
ANDERSON 400-A-E	6-3124	Conn	Wetels	120	32x4	SS	.....	1775	.....	.....
APPERSON 8-30	6-3125	Remy	Bijur	130	34x44	SS	4000	.....	4000	6000
AUBURN 430-H-K	6-3124	Remy	Remy	120	32x4	SS	11595	1595	.....	.....
BELL	4-3124	A-Kent	Dyneto	114	31x4	QD	1145	1145	.....	.....
BIDDLE H	6-3124	Emmann	G & D	121	32x4	QD	12750	3000	.....	4400
BRISCOE B-24	4-3124	Conn	A-Lite	104	30x34	C	885	885	.....	.....
BUECH H-44-47	6-3124	Delco	Delco	118	32x4	SS	1495	1495	2195	.....
H-48-50	6-3124	Delco	Delco	124	34x44	SS	.....	1785	2585	.....
CADILLAC 87	6-3124	Delco	Delco	125	35x5	SS	3220	1920	3220	4090
CALBE U	6-3124	Wetels	Wetels	125	35x4	SS	12100	.....	2190	.....
CHALLMERS 6-30	6-3124	Remy	A-Lite	117	32x4	SS	1665	1665	1615	2350
CHANDLER	6-3125	Boech	Wetels	125	34x4	SS	11795	.....	1795	2495
CHEVROLET 490	4-3124	Remy	A-Lite	102	30x34	C	715	725	1185	.....
FB	4-3124	Remy	A-Lite	110	32x4	SS	1110	1135	1685	.....
D	6-3124	Remy	A-Lite	120	34x4	SS	1855	.....	.....	.....
COLE 870	6-3124	Delco	Delco	127	32x5	SS	2595	1265	2595	3995
COLUMBIA D-CACS	6-3124	A-Kent	W Land	115	32x4	SS	11745	1600	.....	2445
COMET C-41	3-124	De se	Dyneto	125	32x4	SS	.....	1695	.....	.....
CROW-ELKHART CE-46	4-3125	Conn	Dyneto	115	32x34	SS	1065	1095	1115	1445
CE-46	6-3125	Conn	Dyneto	116	32x4	SS	1295	1295	1125	.....
CUNNINGHAM V-3	6-3125	Delco	Wetels	122	32x5	SS	14250	4750	4250	.....
DANIELS B	6-3125	Wetels	Wetels	127	34x44	QDR	3750	3750	3750	5500
DAVIS H	6-3124	Delco	Delco	119	34x4	SS	11595	1595	.....	.....
J.J.	6-3124	Delco	Delco	124	34x4	QD	.....	12060	2060	.....
DISPATCH G	4-3125	Boech	USL	120	34x4	SS	11250	11290	.....	.....
DIXIE FLYER L-35	4-3125	SS	Dyneto	112	32x34	SS	1095	1095	.....	1450
DODGE BROTHERS	4-3124	Own	N.E.	114	32x34	SS	1095	1095	.....	1750
DORRIS 6-30	6-4	25	Boech	122	34x5	SS	.....	3750	3750	4615
DORT 11	4-3125	Conn	Wetels	1054	30x34	QD	1995	925	1345	.....
ELGAR D.J.	4-3125	A-Kent	Dyneto	115	32x34	SS	1175	1175	1725	1895
ELGIN H	6-3124	A-Kent	Dyneto	116	32x4	SS	.....	1575	1175	1895
ERICK A	6-3124	Wagner	Wagner	115	32x4	SS	1395	.....	1960	.....
FORD T	4-3125	Delco	Delco	108	32x4	.....	.....	1395	.....	.....
	4-3124	Own	.....	100	30x34	C	500	525	.....	775
FRANKLIN 9B	6-3124	A-Kent	Dyneto	115	32x44	SS	\$2400	\$2400	\$2450	\$3350
GRANT G	6-3	44	Remy	Wagner	114	32x34	.....	1120	1120	1645
HARROVIN A-1	4-3124	A-Kent	Remy	106	30x34	.....	1095	995	.....	.....
HAYNES 45	6-3125	Remy	L-N	127	34x44	SS	12485	2485	3485	3350
4	12-3125	Delco	L-N	127	34x44	SS	.....	13250	3250	4000
HOLLIER 206	6-3124	Remy	Splidori	114	32x4	SS	.....	1785	.....	.....
HOLMES	6-3124	Elseman	Dyneto	126	34x44	SS	.....	2900	3900	.....
HUDSON Super-8	6-3125	Delco	Delco	1254	35x44	SS	.....	12200	2200	3000
HUPMOBILE R	4-3124	A-Kent	Wetels	112	32x4	.....	1335	1335	.....	2135
JONES 28	6-3124	Remy	Wetels	126	34x4	SS	.....	12350	2100	.....
JORDAN J-40	6-3124	Delco	Bijur	127	32x44	SS	.....	12475	2475	3500
KING G	6-3	25	A-Kent	Bijur	120	34x4	SS	2550	2150	3100
KISSEL KAR Custom Built	6-3124	Remy	Remy	124	32x44	SS	.....	1565	1565	2590
KLINE KAR 6-42-H	6-3124	Conn	Wetels	121	32x4	.....	.....	1785	1785	2750
LEXINGTON R-19	6-3124	Conn	Wetels	123	34x4	SS	.....	1570	1720	2640
LIBERTY 10-B	6-3124	A-Kent	Wagner	116	32x4	SS	.....	1390	.....	1890
LOCOMOBILE 38	6-3125	Berling	Wetels	139	35x5	QD	15700	5500	5500	.....
48	6-4124	Berling	Wetels	142	35x5	QD	16700	6600	6600	.....
MADISON MADISON	6-3125	Remy	Remy	115	32x4	SS	.....	1650	.....	.....
MAIDMOM B	6-3124	A-Kent	Wagner	116	32x44	SS	.....	1390	.....	1890
MARMON 34	6-3124	Boech	Bijur	126	32x44	QD	13950	3000	3950	5750
MAXWELL McFarlan	4-3124	A-Kent	Stunns	109	30x34	C	895	895	.....	1565
MERCER Series 4	6-3124	Berling	Wetels	123	32x44	QD	4350	1400	4500	.....
MUTCHELL E-40	6-3125	Remy	Remy	120	34x4	SS	11275	1275	.....	2175
E-42	6-3125	Remy	Remy	127	34x4	SS	.....	1675	.....	.....
MOLINE-KNIGHT L	4-3125	Conn	A-Lite	118	34x4	SS	12000	2000	.....	.....
G	4-4	26	Conn	A-Lite	122	35x44	SS	12000	.....	2500
MONITOR	6-3124	Dyneto	.....	117	32x4	.....	1475	.....	11475	.....
MOON 6	3124	Delco	Delco	115	32x4	SS	.....	1685	.....	.....
6-46-19	6-3124	Delco	Delco	125	35x44	SS	12500	2500	3350	.....
MOORE MURRAY	6-3124	Conn	A-Lite	108	30x34	.....	.....	865	.....	.....
NASH 681-6	6-3125	Dial	Wetels	128	34x44	.....	2900	2900	2900	.....
681-6	6-3125	Delco	Delco	127	34x44	SS	.....	1640	.....	.....
NATIONAL 7	12-3124	Delco	Bijur	128	34x44	QDR	12450	12450	2450	3120
NELSON OAKLAND	4-3124	Boech	U.S.L.	104	32x4	SS	1300	1400	.....	1800
34-B	6-24	44	Remy	112	32x4	SS	11075	1075	.....	1650

ABBREVIATIONS—"A-Kent" Atwater Kent, "A-Lite" Auto-Lite, "Conn" Connecticut, "G & D" Gray & Davis, "Elseman" Elseman, "J.N." Leese-Neville, "N.E." North-East, "Wetels" Westinghouse, "W. Land." Ward Leonard, "SS" Straight Side, "QD" Quilt Detachable, "C" Clincher, "QDR" Quilt Detachable Reversible. NOTE—Solidly means that the rear tire are solidly and the front are similar.



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

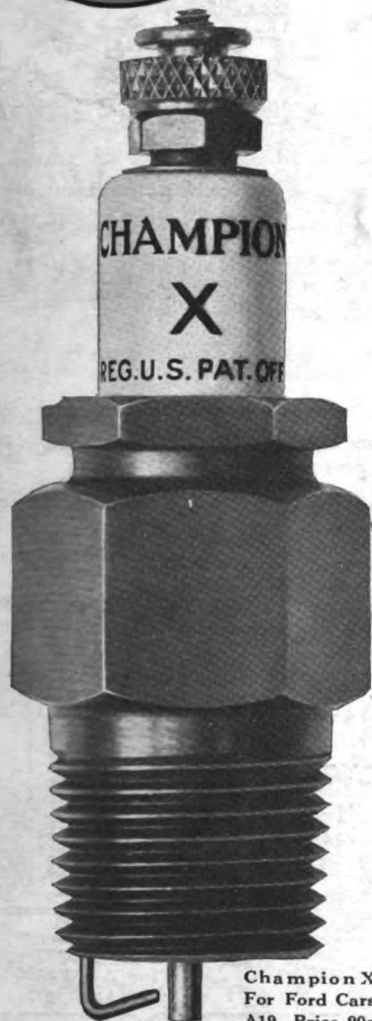
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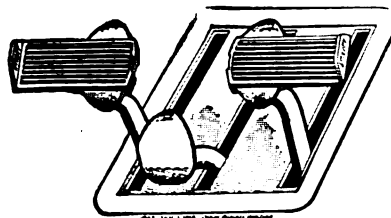


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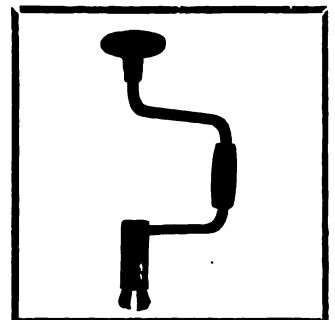
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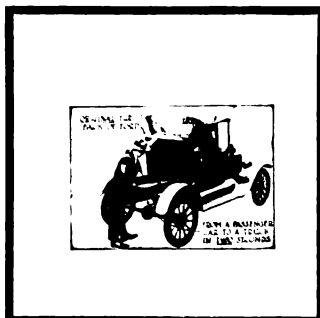
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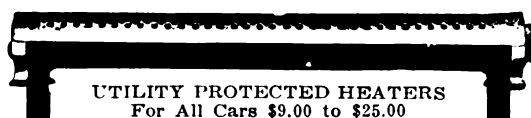
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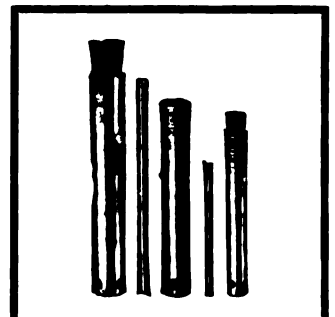
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## Editorial Contents

The Dealer's Part.....	7
Going to Hot Springs?.....	8
Sell the Farmer on His Ground.....	10
A New Way to Sell Used Cars.....	12
Sell Cars Plus Safety.....	13
If He Could Do It.....	16
My Old Car Is Worth More.....	17
The Law .....	18
Take a Tip from the Hat Girl.....	19
New Convertible Republic Body.....	20
Better Mechanics Department.....	21
Scientific Construction .....	24
Editorial Observation .....	26
Letters from Readers .....	27
Automotive Equipment .....	29
The Retail News .....	30
Sayers Car Improved .....	32
Repairshop Shortcuts .....	34
Regular News Department .....	36
Coming Events .....	48
Specifications .....	49

Advertisers Index on Pages 180-181

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Get a stock from your jobber and begin making profits on the easiest seller in your store.

### Send for a Dutch Brand Catalog

The complete Dutch Brand line is illustrated and described in detail. Every article fills a demand. A catalog will be sent you upon request. Write for it.

### Van Cleef Brothers

Manufacturers of Tire and Chemical Specialties

Woodlawn Ave., 77th to 78th St.  
CHICAGO, U. S. A.





# Motor Car Dealers!

This is an offer to finance you to the extent of \$5,000 up to \$50,000, for at least one year.

If you are in need of money to carry your stock of new cars, I can furnish you the funds up to \$50,000.

My plan is based on the fact that there is a minimum number of cars you should keep in stock at all times to make display and insure deliveries.

## Distributors

*Put me in touch with your dealers. I'll finance them to their fullest requirements. You and they will profit thereby.*

If you were a coal merchant you wouldn't sell the coal first and then rely upon going to the mines to obtain it—If you were in the clothing business you wouldn't wait for Spring and then take up your tape measure for orders and with good judgment rely on the factory to make deliveries in time for your trade.

But if you were an intelligent merchant you would have a well-balanced stock of merchandise on hand at all times—then you would be sure of the sales *and the deliveries*.

IT'S DELIVERIES THAT EARN REAL PROFITS—mere sales represent paper profits, which often are changed into net losses.

That logic governs particularly in the automobile business. Surely this season should prove to you the wisdom of having cars in stock.

Your common sense should convince you that the factory can't manufacture cars, excepting against actual orders. If they manufactured a stock for all the dealers throughout the United States, they would require millions of capital beyond what they already possess.

Hence the manufacturers over-sell their output two or even three times, so if you fall down on them they still win. But you hold the bag—and you should, if you fail to merchandise your business correctly.

I CAN RIGHT THAT CONDITION FOR YOU. YOU AND I DECIDE ON A SUM YOU REQUIRE AND I'LL INVEST THAT AMOUNT IN NEW CARS UP TO 80% OF FACTORY COST, AND YOU HOLD THE CARS IN YOUR SHOW-ROOM OR WAREHOUSE.

When you sell a car, the money collected from that car will go into another, and so on for one year, you paying me a very small share of your gross profit.

THEN YOU WILL BECOME AN AUTOMOBILE MERCHANT, NOT AN AUTOMOBILE AGENT—YOUR SALES WILL BECOME DELIVERIES, AND YOUR DELIVERIES WILL BECOME PROFITS.

Communicate with me and you will receive personal and confidential attention.

**HARRY M. LASKER, 5 Columbus Circle, N. Y. Phone Columbus 8258**



## *As It Should Be!*

---

The advertising agency handling the advertising for one of the largest trailer manufacturers made the following interesting statement in a letter dated May 9:

*"In discussing advertising returns with the ——— Co., at a conference yesterday it developed that Motor World is leading all other trade papers in volume of business produced and in low advertising cost."*

The above is just that much more evidence that MOTOR WORLD not only has a big circulation among dealers, jobbers and garage owners, but that the advertising and editorial pages get equal consideration from our subscribers.

MOTOR WORLD.



# Don't use This *when* Making Shims

## *Do it the easy way*

Solid shims are out-of-date. Loose-leaf shims are troublesome to handle. Filing is a waste of labor. Assembling means lost time. Use—

# LAMINUM

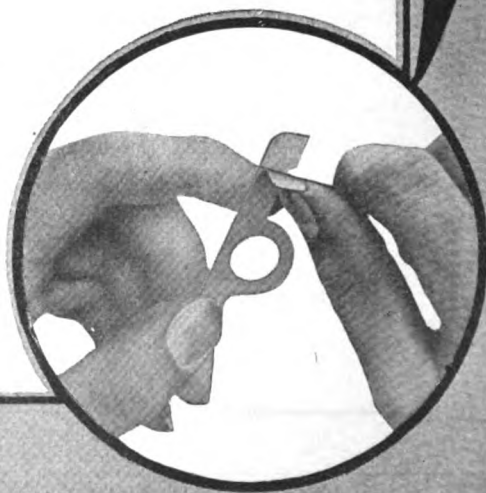
LAMINATED SHIMS are made in a jiffy. Time, labor, money saved. Just peel off layers with a knife—that's all. Absolutely accurate. Smooth surface always. A finer, a better, a more satisfactory bearing adjustment than with *old-fashioned* solid or loose-leaf shims.

STOCK SHIMS for Ford, Chevrolet Four-ninety, Continental 7-W, Continental 7-N, Maxwell, Overland, Dodge.

**Laminated Shim Company**  
533 Canal Street New York

Detroit: Dime Bank Bldg.  
St. Louis: Mazura Mfg. Co.

London: R. A. Rothornel, 6 Great Marl-boro' St., London, W.





# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

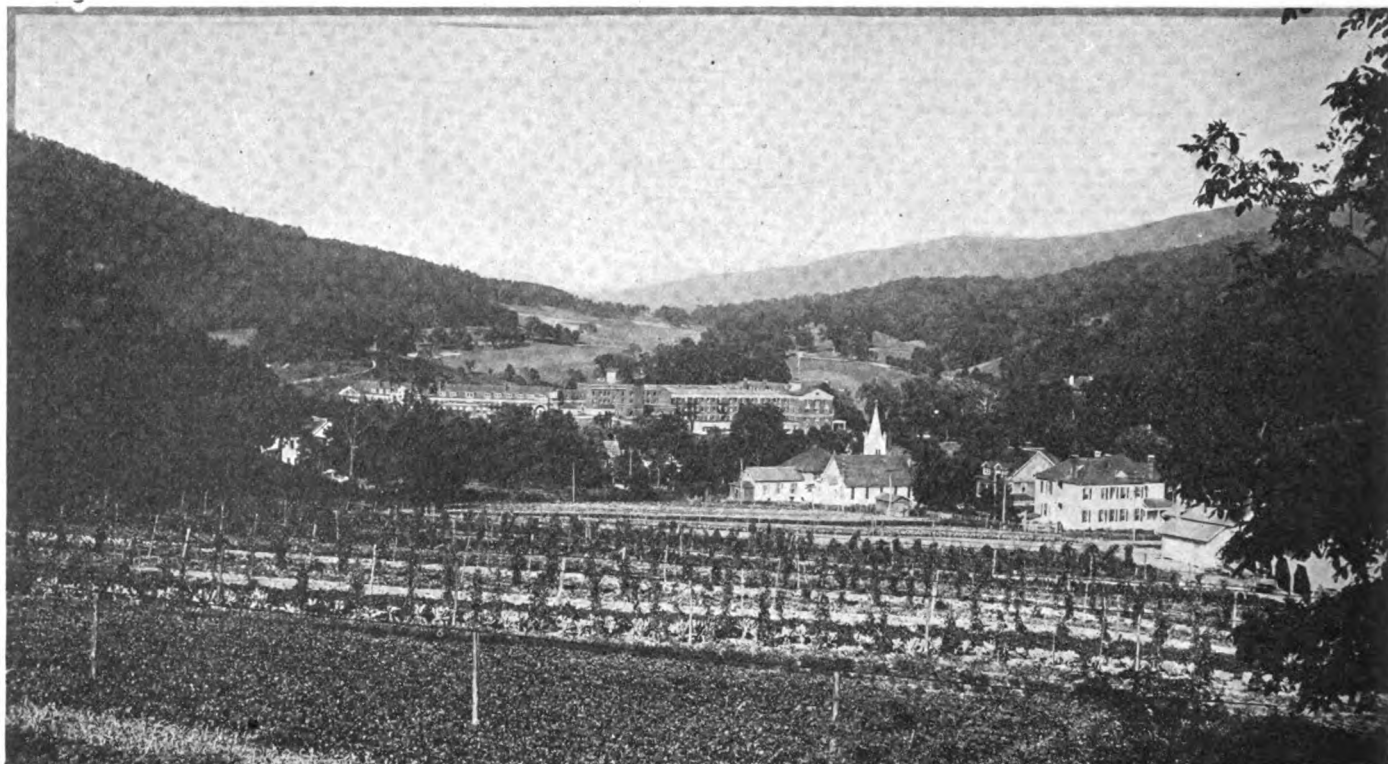
New York, U. S. A., Wednesday, May 14, 1919

No. 7

## The Dealer's Part







*This is a view of Hot Springs never seen by any of the jobbing fraternity. It necessitates climbing the mountain back of the hotel. In the foreground is a vineyard which somebody set out with the idea that grapes were made to eat. Looks like a church steeple down there. Does anybody know whether it is or not?*

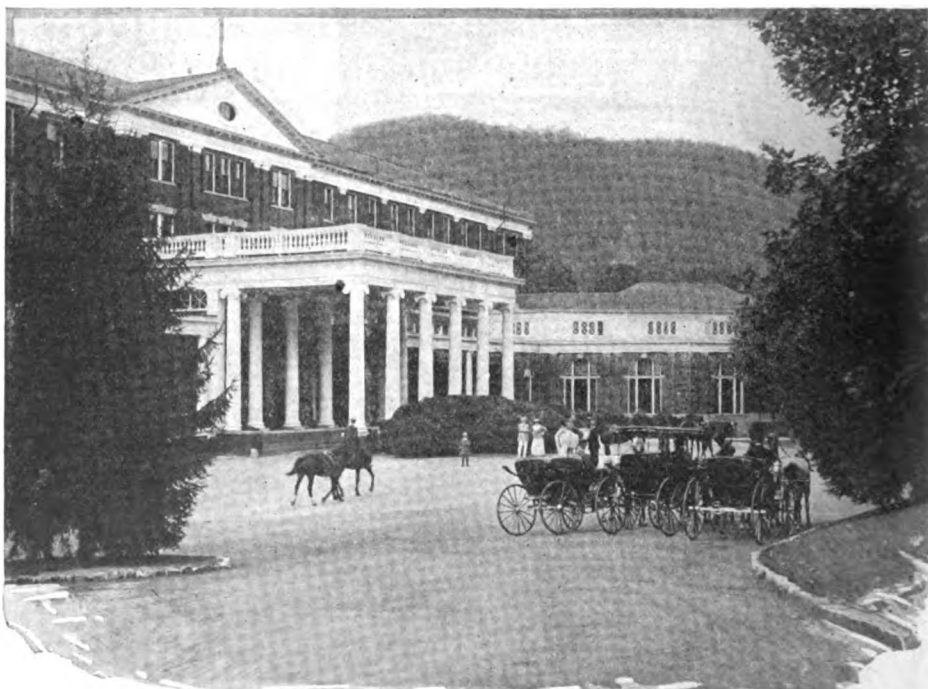
## Will YOU Be at Hot Springs?

***H**AVE You Been Hesitating as to Whether to Go to the Hot Springs Meeting of the Jobbers' Association? If so, Take a Look at These Two Pages and Pack Your Nightie and Your Golf Sticks and Etcetera—if You Know What That Is—for They Say the Links Are Just as Enticing as Ever.*

**A**S we get this Hot Springs business, it is going to be run this year on a more or less sensible plan. We may be wrong, but the way it comes to us is that there is to be a week of convention with a whole day's work done in a half day every day, beginning June 2 and ending June 6. Anyway, we have the dates right.

Whether that's the way or not this time, it is generally the way it has worked out on other occasions, for there never yet was an afternoon session at which the association didn't make considerable money because of the absentees who would rather lose five dollars than a chance to play golf.

You see, it's like this: A lot of these hard working fellows, like Webster and Norris and Englehart and Powell and other celebrities, have to go to the convention because it wouldn't run without them, and after they get there they're sorry they are such celebrities because it doesn't look well for one of the leading lights in the ark to go out and play when busi-



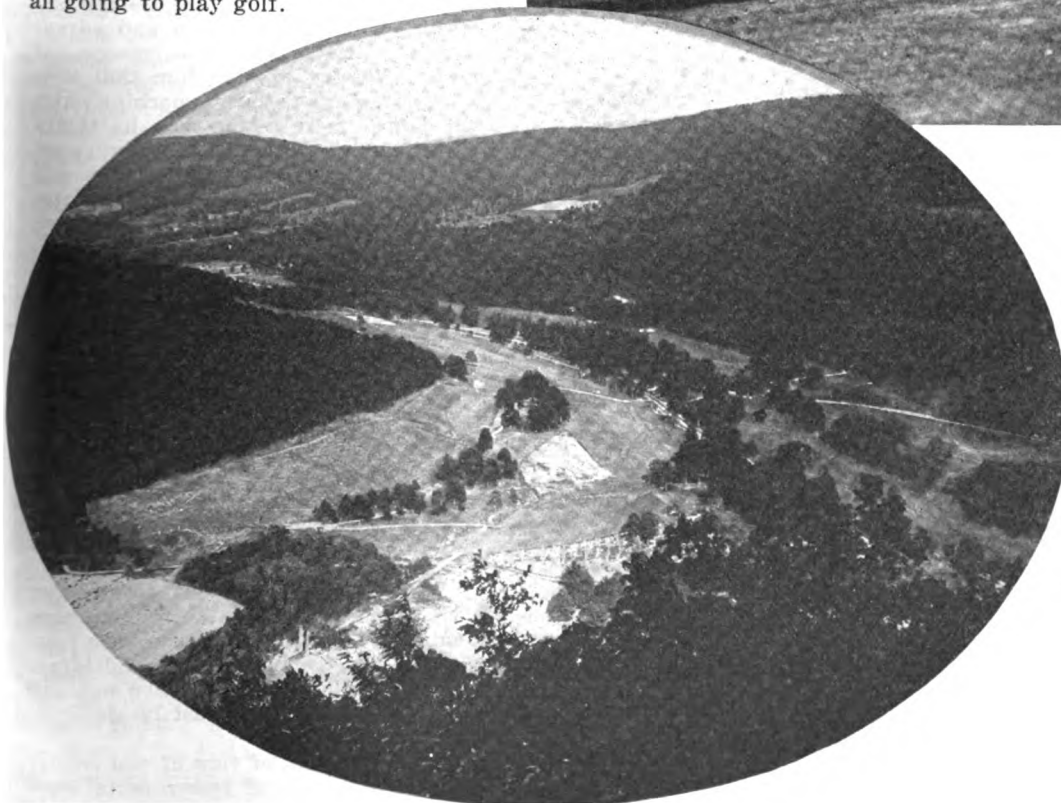
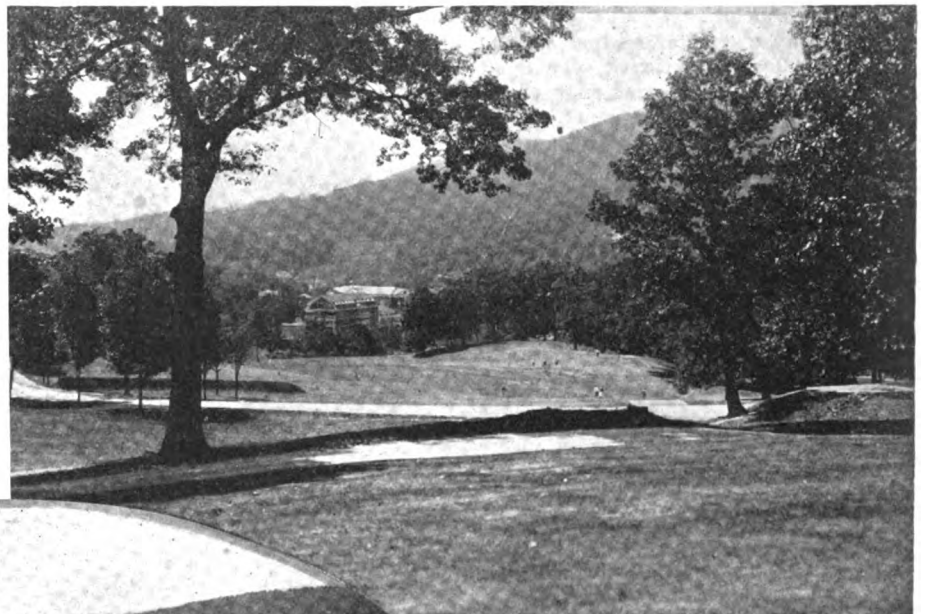
*If you ride up from the end of the railroad the bus sets you down at this door. Otherwise, the only time you see this door is when you roost at the rail in the morning sunshine or give the horse the air*



## NEXT WEEK!!

**N**EXT week Motor World will print a list of those who will be at Hot Springs at the Automotive Equipment Meeting. Stick next week's Motor World in your bag when you leave home. It will help you remember the names to go with those faces and will provide old names for some of the new faces you will see.

ness is in such dire need of attention, so the lesser lights, who have found that disaster doesn't overtake the association in their absence, give the leading lights a sneaky ha-ha! and fail to show up in the afternoon and they come in at even-tide—when people might be crossing the bar—if there were one—and exhibit beautifully tanned domes, and there is lots of conversation about scores and caddies and hay lots and all that sort of thing, and then the commissioner reads the riot act to the absentees and the next day they do it all over again and then—but what's the use, this time they're all going to play golf.



### THE PICTURES

#### Top

Looks like Dick Englehart about to whale the ball down into the grass in the right foreground. He's good at this. The other gent looks like Bill Norris in a critical pose

#### Center

At the right under the trees is the tee for the eighteenth hole. There isn't any nineteenth hole. If you are expert enough to hit a tree when you tee off you can bounce the ball half way back up the seventeenth fairway

#### Oval

Many great men have come to grief here. In driving across the short fairway in the foreground you have several options—deep ditch, hay lot or potato patch. Somebody said it could be made in three but nobody believes him



# Sell the Farmer on Your Ground—Not His

*Rushville Company Impresses Prospects with the Need for Reserve Power and Looks After Tractors in Service*

**T**HAT a tractor will pay for itself in from three to five years is the fundamental assumption relied upon by Oneal Bros. at Rushville, Ind., to put across the Emerson-Brantingham tractors. It works, too, if one may judge by the success which has attended the efforts of the concern.

"If you buy a quarter section of land and pay \$200 an acre for it, you don't expect to make 100 per cent on your investment the first year, do you?" I ask the farmer. "Well, it's just the same with a tractor. Figuring the relative cost of tractor maintenance and that of an equivalent power in horses, it is mighty easy to prove that the difference in cost between horse labor and tractor labor will pay for the latter within two or three years." Just get a farmer to sit down at your desk and use his pencil for a few minutes and you have him convinced.

"Yes, we canvass, of course. We have a man out in our territory in an automobile all the time. But our experience has been that we are more successful in making sales right here in our own office than we are out in the country. You see, when you go to a farmer's place to talk tractor to him you have in a way tipped your hand. You're on his ground. The obligation rests on you. He feels that it's you who wants the deal and that if he buys from you he's doing you a sort of favor. You have given him the advantage.

"Whereas, get him into your own office, especially if he comes of his own accord, then the tables are turned. It's you this time who has the advantage. Then, too, we are not very far from Indianapolis, where the company maintains a branch house, and it's easy to jump on to the trolley with a prospect and run him over there. We find our easiest sales are made at Indianapolis. There's something about the atmosphere at the branch office that gets into the blood of the prospect. I guess it's the concentration of purpose, the entire confidence expressed by everybody around the establishment that the E-B tractor is a little bit of all right. At any rate there's something there which makes it easy to land the deal.

"But when we can't get our customer over to the branch we try to make the same impression here. Of course, all we



W. S. ONEAL

*Who knows all the farmers by their first names*

have to rely upon is our general reputation as reliable business men and such influence as we can bring to bear with pencil and paper. Then we always are ready and willing to demonstrate. If a farmer wants to see what one of our tractors will do we take it out to his farm and show him. But we do it with a clear understanding of the consequences. We do not go out telling him that we will suit him—oh, no, not at all. But we do tell him that we will come out and show him that our machine will do his work satisfactorily. There is a difference here which every dealer selling tractors ought to recognize. Furthermore, if we do his work then he has bought something—we don't haul that tractor back to town.

"I am very much convinced that farmers need instruction. They need to be shown how to operate the tractor they buy, and also they need to be advised as to the kind and size of machine to buy.

"The former of these we cover in this way: When a tractor is delivered we send a man to start it and to tell the farmer all it is possible to tell him at that time. Then, as our canvasser drives around the country he is instructed to call, as occasion may present itself, upon every farmer who has bought a tractor, ask him how he is getting along, go over to the tractor and give it the once over, lift up its hood and take a peek at the engine, do any little thing in the way of adjustment he finds needful. This gives the farmer a chance to ask questions about things he does not understand thoroughly and leaves the impression with him that just because he has bought from us he is not forgotten but that our interest lasts after the sale is made.

"In advising the farmer as to the kind of tractor he ought to have we lay emphasis upon the importance and advantage of always having a reserve of power. We try to show him that it is to his advantage to have a machine which will deliver more power than he thinks he will need. We base our arguments upon our conviction that the time will come when every farmer on a quarter section of land or more will need two tractors, a two-bottom and a three-bottom capacity machine. Both will be used for plowing, of course, but the chief function of the larger machine will be to take care of the belt work on the farm.

"We illustrate this argument by calling the attention of the farmer to the fact that practically every farmer in this section, as soon as he becomes the owner of a tractor, sells off his old horse-drawn equipment and buys the heavier power machines instead. This makes it clear that reserve power will be necessary some time.

"In this connection I want to say that most of the equipment the farmer commonly buys is too light for use with tractors. He must have sturdier and larger capacity machines. If they are not now in existence then they must be designed and built.

"From the point of view of the tractor dealer this matter of power farm oper-



ative equipment is important. Every tractor sold creates a demand for power equipment. It is the most natural thing in the world for the farmer to come to the dealer from whom he bought his tractor for any power equipment he may happen to need. Thus the dealer sells such equipment practically without effort on his part and at a greatly reduced overhead. In fact, we consider all such sales as clear velvet.

"Being as close to Indianapolis as we are, with railroad and trolley connections, it is unnecessary for us to carry a very extensive stock of repairs or to worry very much about service. We always can get repair parts within a few hours and we always can rely upon Indianapolis for any expert service which is beyond the ability of our own force to take care of.

#### Advertising to the Farmer

"Our plan of advertising is probably unique. We have about 100 tree boxes scattered over our territory. These boxes are about 6 ft. high and 3 ft. wide on each face. They surround trees in conspicuous locations along the roads. On these we paint the message we want to get across to the farmer, varying it according to circumstance and the time of the year. We also use these as bulletin boards, pasting or tacking on them



*Oneal Bros. use these tree boxes to advertise their business and the farmers have acquired the habit of watching these bulletins for information*

any broadsides or other printed matter we get from the companies we represent, or any special circular we get out ourselves. We have found this plan of publicity works mighty well. The farmers have gotten the habit of looking on these boxes for our business announcements. You see, we buy wool and

pelts, in addition to selling goods, our business last year running to about \$75,000 on the former and over \$200,000 on the latter. We use our boxes for advertising this department of our business, and as every farmer is interested more or less he pays attention to what we may have to say there."

## Exchanging Cars for Cotton

**W**HEN Salt River valley cotton growers found themselves facing the necessity of holding their cotton for an indefinite period owing to a shortage of ginning capacity, McArthur Brothers of Phoenix, dealers in Dodge Brothers motor cars, inaugurated a "Car for Cotton Sale" of used cars, accepting unginned or "seed" cotton in payment.

The idea has met with such success that to-day the cotton growers of the Salt River valley are finding their unginned cotton legal tender for automobiles, real estate—in fact, almost anything they need.

The "Car for Cotton Sale" furnishes a good example of the way in which a dealer may cash in on a difficult situation and turn it to account. The growth of the long staple cotton industry in the Salt River valley has outstripped the ability of the local gins to handle the crop, and in spite of the fact that all the cotton gins in the valley were being operated night and day at full capacity many cotton growers found it impossible to have their cotton ginned for an indefinite period.

Ginning machinery, the delivery of which had been delayed by the war, was slow in arriving, with the result that much cotton had to be stored. Storage facilities to take care of the large crop were scarce and many farmers were facing the prospect of having to build their own seed cotton houses, or pay for storage in warehouses at considerable expense to them.

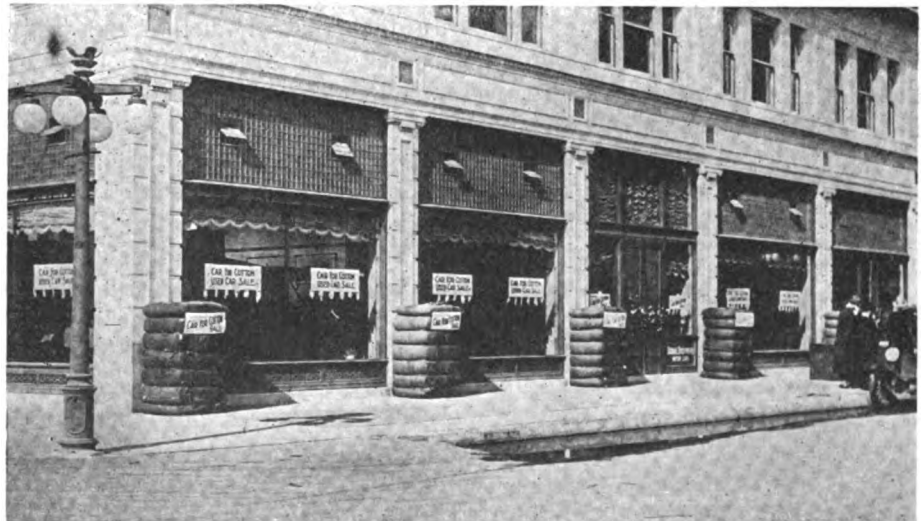
Recognizing the fact that most of these cotton growers were excellent prospects,

or would be as soon as they had disposed of their crops, McArthur Brothers announced a "Car for Cotton Sale" of used cars, at which cotton either ginned or unginned would be received as cash for automobiles. In preparation for this sale bales of cotton were used for exterior decorations, a line of these being placed on the sidewalk in front of their building.

Sprays of ripened cotton bolls were fastened to the screen doors, while inside the display room cotton bolls and stalks were featured in the decorative scheme.

An outdoor used-car mart, staged on

an adjoining vacant lot, was surrounded by bales of cotton placed at regular intervals, while each used car on display carried a large "Car for Cotton Sale" sign. Wagons loaded with seed cotton received in exchange for cars were driven directly into the used-car mart, where cotton growers gathered to look over their prospective purchases. The sale was a success in spite of the fact that a strict quarantine was being maintained on account of the prevailing epidemic of Spanish influenza, this circumstance undoubtedly keeping many farmers from attending.



*The McArthur Brothers building appropriately decorated for the "Car for Cotton" sale*





*A. H. Knaus, a Portland, Ore., motor car dealer, on the theory that people like to see something in motion, built this miniature race track, placed used cars at opposite sides, with their wheels lashed, and started them so they followed each other around the track. It has resulted in an average of nearly a car a day sold for a month.*

## One Way to Increase Used Car Sales

‘**P**EOPLE everywhere are very much alike. They like action, and this is just as true in selling used motor cars as in watching motion pictures.”

Application of this principle to his own business has enabled A. H. Knaus, president-manager of the Twin States Motor Car Co., Portland, to sell used cars as fast as he takes them in trade on new Chandlers and Saxons.

Knaus' application of the principle is as simple as the principle itself. Across the street from his salesroom is a vacant lot.

For \$100 he had a miniature race track, 50 ft. in diameter, built and paved with crushed rock, on this lot. At opposite sides of the circle he placed two of the used cars he wished to sell. With wheels lashed so they would follow the roadway exactly, without drivers, the engines were run just fast enough to keep the cars moving easily on high gear. A live salesman was posted near by to watch the cars and follow up inquiries.

The result was surprising, even to Knaus. These first two cars were quickly sold to persons who had stopped only to look on for a moment. That was early in March. Since then the sale of used cars to prospects attracted by this simple means has averaged close to one a day—all on the original outlay of \$100 for the race track and a small rental for the lot.

“It has been the most profitable \$100 I ever invested,” says Knaus. “Of course, the idea of running a car without a driver around a track is not especially new. But, so far as I know, to send two cars around the track at the same time is new, and so is the application of the plan to used cars.

“It is all a matter of psychology. I had the used cars; the problem was to bring them to the attention of persons who would buy them. People like to see something moving, especially something mechanical. You, yourself, if you see a mechanical toy moving in a show window, will join the crowd and stop to look at it. I figured that if such a plan was good for the retail merchant, it ought to be good in my case, for folks everywhere are much alike. And so it has proved.”



# SELL MOTOR CARS

## Plus Safety

### A BIG NEW THOUGHT FOR EVERY DEALER

**W**HAT follows will appeal to the country merchant more strongly than to the city merchant, for two reasons. One is that the sort of accidents treated in this article are more frequent to customers of country dealers than to city dealers; the other is that most city dealers already are preaching "safety" to their buyers.

The kind of accidents involved here are railroad-crossing accidents. The reason for suggesting it is that in 1917, 1,912 persons were killed in steam and electric railroad accidents and 4,927 were injured.

Think of it! Almost 7,000 persons uselessly killed or maimed. The loss of life is deplorable and the loss of business worth thinking about.

Does this mean anything to the dealer?

W. L. Wasson, a motor car dealer in the small town of Lincoln, Ill., says that it does. His belief is that the dealers can stop this loss of life. Wasson has sold motor cars for 16 years in a part of the country where, for the most part, roads are straight and level and there is a tendency to speed. These are the folks who "take a chance" and shoot across the railroad track.

If you have ever lived in a country community you know that crossing accidents are much talked about, much discussed and the horror of it lasts in that community for a long time.

#### Wasson's Safety Suggestion

Wasson's suggestion of safety was made in a letter to General Manager Foley of the Illinois Central Railroad, who is seeking a way to stop these deplorable accidents. The letter comes to the motor trade as a contribution from the N. A. D. A., because Business Manager Harry G. Moock became interested in this campaign and communicated with W. B. Spaulding, of St. Louis, general claims attorney for the Frisco Railroad. Spaulding also is chairman of the Highway Crossing Committee of the American Association of Railway Claim Agents, embracing every railroad in the United States.

The railroad folks are going thoroughly and consistently into this crossing-accident business and they regard Wasson's letter as the best single suggestion they have received. Read it, especially this paragraph:

Are you selling safety with your motor cars?

Did you ever stop to think that each customer of yours who is killed is a prospect for one or more sales gone?

Did you ever stop to think what will happen to your business if some superstitious person starts the report that an ill omen hangs over your cars?

"One man you killed on your tracks near Clinton many years ago tried to buy of us, but he could buy at another place and get a discount, so he did and was killed near a railroad track. It would not have happened if we had sold him, for I CAN PUT THE SCARE INTO THEM SO THAT IT WILL NEVER LEAVE THEM ON APPROACHING A RAILROAD."

Are you doing that to your customers? Is the country merchant doing it as regards railroad crossings? Is the city dealer doing it as to metropolitan dangers?

#### Think This Over

Is it good business to neglect it?

Think it over.

You cannot pass the buck entirely to the railroads on this question. They are doing their part and, having done that, they are looking for the necessary help to stop the slaughter. During the 5½ years from July 1, 1912, for which special statistics were prepared, there were 7,808 persons killed and 21,672 injured in combination automobile-railroad accidents.

This is an average of 1,419 persons killed a year and 3,940 injured. Comparison shows that with the nation at war, with hundreds of thousands of men in the army camps in America and thousands more already in Europe, there was an increase of 75.25 per cent in 1917 over the number killed in the first year of the 5½-year period, 1912, when 1091 lost their lives. This was an increase of 44.52 per cent in 1917 over the number injured in 1912, which was 3,409.

Despite this record, the claim agents made one interesting deduction:

"The automobile is a safe vehicle.

That puts the danger into it. Hence it is the driver that we must reach.

In the opinion of the association which Spaulding represents there is no chance to unload the burden of protection upon the railroads. It is financially impossible.

Here what the report says upon the expenditures involved in this respect.

"The Pennsylvania Railroad in 12 years has expended \$66,000,000 in eliminating grade crossings on its line, and to do away with the remaining 13,000 would cost that company \$600,000,000. The Illinois Central

says that to eliminate 8,000 grade crossings still remaining on its line would cost more than the entire capitalization of the company, and the Southern Pacific officers talk the same way."

#### Grade Crossing Accidents

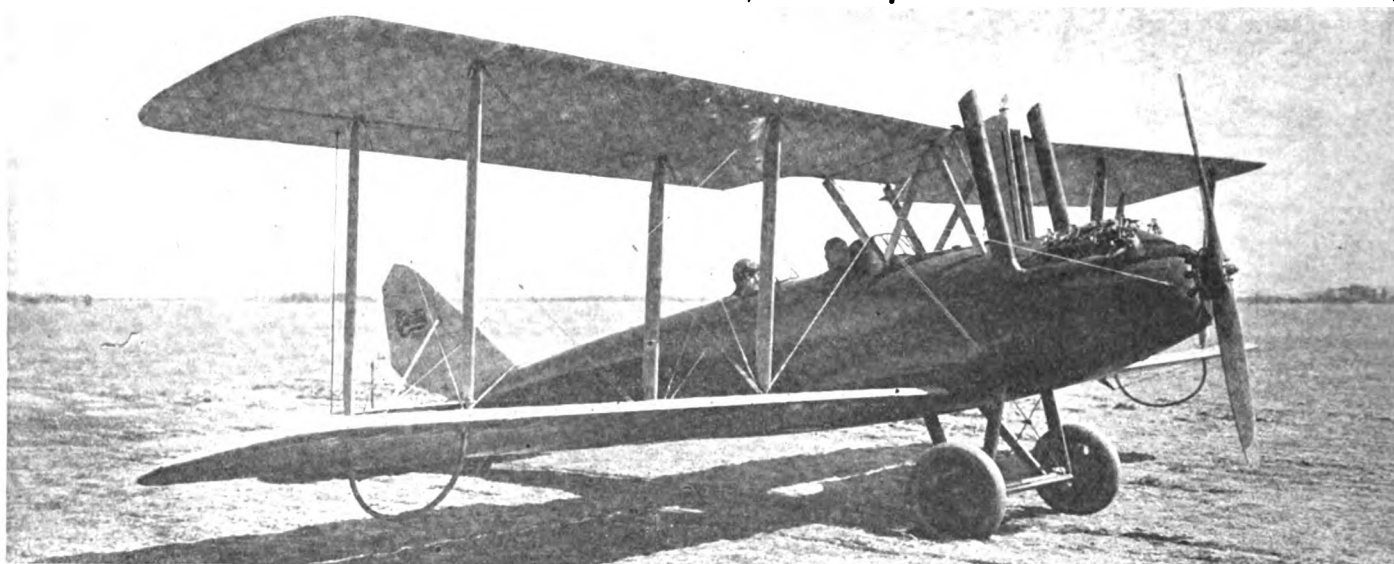
Because grade-crossing accidents "shattered the nerves of the enginemen concerned and made them unfit for the duties of their responsible positions," the Illinois Central in the years 1916 and 1917 had observations made at a large number of its highway crossings to determine the conduct of those about to cross its tracks. "Seventy-five per cent of those observed did not stop, look or listen for the possible approach of a train, but proceeded over the crossing without taking the slightest thought for their own safety or for the safety of the friends or relatives who frequently were with them.

"The heedless crossing user in California, in a similar observation test made by the Southern Pacific company, was 67½ per cent of the whole number, which, according to the committee's memory, was 7000 persons. Human nature is the same everywhere.

There is little need to call attention to the value of this concluding sentence: *Human nature IS the same everywhere.* It not only is the same in respect to thoughtlessness at grade crossings, it also is the same in respect to appreciating safety once the method has been brought home. What Wasson found out is true in his home county is true in your home county. As a dealer, sell an AUTOMOBILE PLUS SAFETY. Make your Bill of Sale an Accident Insurance Policy.

Letter written to General Manager  
(Continued on page 38)





**H**ERE is Curtiss's first commercial airplane. It is called "Oriole" and sells for \$7500. Three passengers are carried comfortably, two in the front compartment, which is beautifully upholstered in leather and provided with a windshield, and the pilot in the rear compartment. It is powered with a Curtiss O-X5 engine, such as was used by the government in its JN-4D training planes, and is capable of a maximum speed of 85 m.p.h. There is an engine starter. The plane measures 36 ft. from wing tip to wing tip, is 25 ft. long and 9 ft. 5 in. high. The total weight is 2188 lb. and the carrying capacity 767 lb. In a recent test it averaged 109 miles in 1 hour 11 minutes.

## WHERE EVERY OAKLAND SALESMAN READS THE "BIBLE"

It's the Law and the "Profits," So Far as the Z. S. Vertner Sales  
Co. of Philadelphia Is Concerned—All Carry "Reminders"

**E**VERY salesman of the Z. S. Vertner Motor Sales Co., 918 North Broad Street, Philadelphia, Oakland dealer, carries a vest-pocket loose-leaf memorandum book, neatly bound in black leather and known as his "reminder." He'd as soon be without his shoes as minus this useful little memo book. Of course it is provided with a calendar and there's plenty of space under each day of the week to make notations for future reference.

Into this "reminder" goes everything in the way of data to assist him in making a sale. The company supplies the booklets, because it is deemed best to have them uniform and because it has been found not so well to rely on a salesman getting his own vest-pocket memorandum. He might forget it, or put off getting it for one reason or another until valuable information about a prospect could not be assembled in time to do him any good. By having the reminder of the loose-leaf type, of course there is a certain amount of economy and legibility of data, for the leaves can be renewed as desired.

And then there's the "Bible," too. Sure! They have a "Bible" in the Vertner office—and *everybody* reads it.

"Bible" and "reminder" are a sort of interlocking arrangement. For instance: Anywhere a salesman spots a prospect, or somebody that is a potential prospect, he finds out all he can about him, jots it down in his "reminder" and then, at his first opportunity, registers the prospect's name and address in the "Bible," with the date.

### Because It's the Law

This registry book in the office of the company is aptly called the "Bible" because it's the law and the "profits" so far as the salesman is concerned. The "Bible" runs in date order and the salesman is paid only on a basis of what the "Bible" says—the supposition very properly being that what the "Bible" says is true. It's also a sort of "Who's Who" as regards prospects and quickly quiets all incipient disputes over the possession of any prospect. No peace league session ever is necessary after a peep into the Vertner "Bible."

Another system of the Vertner company includes, of course, the salesman's daily sales report, wherein he makes out a record of his activities of the day just ended. He tries to get this done as soon as he steps off the sales floor. Next

he scores up his new appointments. These likely are already jotted down in his "reminder," so he is sure to think of them, coming and going. Every Vertner-Oakland man runs his eye down the leaves of his "reminder" first thing every morning—if he didn't it might become the cemetery of lost opportunities.

All the salesman's data recorded in the "Bible" are checked by an office clerk and recorded in turn on a 3 x 4 card for the card index system. These are filed in alphabetical order in a single long filing case. It saves distraction of attention and many motions to have a single large filing case rather than many small ones. It is maintained by the company.

"On the salesman's floor day," said O. S. Compton, sales manager, "which comes every fifth or sixth day, we check over his prospects again, because he is then at hand and we can question him closely and thus bring out any points which we think may help him on the opening, or the closing, of a deal—points which he may not have looked at in just this light. So we get together on them, and he can tell us what we want to know.

"Our schedule is so arranged that no



salesman gets the same day, week after week, on the salesroom floor. And there's a difference in days. Monday is a good day because of Sunday's heavy advertising.

Prospects coming in are then thinking of the good points about the Oakland they saw advertised on the

previous day, when the information still is 'hot.' Monday is such a good day, in fact, that it is regarded as a 'plum,' and we make it a point to give all our salesmen a chance at it in rotation.

"We have found, although perhaps it is not easily analyzed beyond the fact that they have also been advertised, that

Monday is an especially good sales day in used cars."

In the Vertner follow-up system considerable propaganda work is done through the Oakland factory's co-operation sending out circulars of an attractive type from a mailing list supplied by the Philadelphia company.

## They Were Good *and* Here Are Some More

*In That Big and Valuable Summer Merchandising Number of Motor World, April 16, Were Many Ideas That Have Been Worth Money to Motor World Readers, and We Actually Had More in Hand Than We Could Find Room For. Here Are Some More.*

### Selling Tractor With Pencil

**A** PENCIL and pad of paper, meanwhile letting the farmer have his own way cleverly convince the latter that a tractor can be a good investment for him. The story is told by M. S. Brunner, manager of the Motor Sales Co., Newton, Ia., Dodge, Hudson, Essex cars and Moline-Universal tractors.

The farmer objects that he cannot afford to buy a tractor.

Brunner suggested to him that he sell some of his horses and asks the farmer, assuming the Moline-Universal will do what is claimed for it, how many horses it ought to displace.

The farmer says: "Mebbe four."

"All right," says Brunner, "what are they worth?"

Immediately horses take a tumble in value and the farmer usually insists that his aren't worth a tinker's dam and that he would be lucky if he could get \$60 apiece for them.

"All right," agrees Brunner, "let it go at that. Now how much corn can you raise on an acre of your farm?"

The farmer allows that 40 to 50 bushels is a fair average on Iowa land.

"Well," says Brunner, "figuring at present prices, that means something like \$60 to \$75 an acre, doesn't it? Now, statistics gathered by the Government show that it takes the produce from five acres to feed a horse through the year. That's at least \$300 for one horse and \$1,200 for four. And no matter whether a horse is worth anything or not he will eat just as much as a good one. Then it costs you something to cultivate those 20 acres you have to set aside for horse feed, say \$5 or \$6 an acre—that's another \$25 or \$30 per

horse, or about another \$100 all told. Now add all these items together:

Feed for four horses for a year .....	\$1,200
Cost of farming 20 acres .....	100
Total .....	\$1,300

"Now add the value of the four horses at your own estimate, \$60 apiece, or \$240. This brings the total up to \$1,540. You should charge also veterinary, harness and a lot of other things you always have to pay in connection with horses. Don't you see, then, that if you get rid of four horses you practically have paid for your tractor in one year?"

"Then, there are no chores," continues Brunner, "no feeding, no running home at night when you want to stay in town for the movies, or the church social just because you've got a lot of pesky horses to look after. You know your tractor is in the shed and it won't worry if you don't get home, nor will it cost you anything while it is standing there. Meanwhile all those acres of good Jasper County land are growing corn, which you can sell to swell your bank account—see?"

Usually they do see!

### Keep Stock in Shape

It doesn't take such a lot of time to keep an accessory stock up in shape. A half hour a day devoted to such work will keep everything presentable. It makes a better impression upon customers and results in an increase in business. Our accessory sales last year ran in excess of \$20,000—E. F. Raver, manager accessory department, Jefferson Auto Co., Jefferson, Ia., Ford and Fordson.

### Try This, Fellows!

I'm putting in a big display case in the front window, so car owners can look at the automotive equipment I handle while they are getting gas.—J. L. McMahon, Westport Garage Co., Kansas City.

### Only Own Make

We have a successful used car business because we handle none but our own make. When a purchaser has run one of these for a year he may bring it back and we examine it for depreciation, usually from \$150 to \$250. We then allow him the difference between that and the price he paid, the same to be credited to him on the purchase of a new car.—J. B. Durkee, Hiatt Motors Co., Buicks, Kansas City.

### Good Machinery Pays

Cost investigations show that overhead tracks and similar heavy work conveniences in a shop are an excellent investment.—W. L. Johnson, president, Johnson Automobile Co., St. Louis.

### When Gaskets Blow

I have found that when gaskets blow out on a car that the reason was that the two bolts on the top of the motor were too long. By taking these bolts out and shortening them a sixteenth of an inch we have had no trouble in having gaskets blow out.—Arthur Castle, service manager, Central Ohio Motor Co., Inc., Columbus, Ohio.

### Salesmen Don't Compete

There is no competition between salesmen in Kansas City. It is all between cars. I have worked harder to sell a \$2.40 case of canned goods to a grocer than to sell a \$5000 automobile.—F. M. Ephland, Kansas City.



**ROBERT DAVIS HUNTER** was standing on motor row, Worcester, Mass., about five years ago wondering what he would turn to next to try to make a living. He was 30 years old. And he had tried selling various lines, but thought he was not a born salesman.

Harry Pulsifer, who had given up painting signs for real estate dealers to enter the motor business, called Hunter in and showed him a King car. He explained to Hunter the points of the car and then told him to go out and sell it.

"I want a fellow about your height and weight to go out and sell it. The car is worth about \$1,500 as it stands there, but it's worth about 10 per cent off that to you if you find a customer for it."

Hunter felt sure that if he could sell California shrubs he could sell motor cars. He went out and sold it. Then he came back for more, and after a time he sold quite a few. But it was not until last year that he really struck his stride. He joined the Studebaker forces and before they knew what he was up to he had sold 120 machines, a record which, when dissected, showed 10 cars or trucks every 30 days.

Then he joined the Massachusetts Motor Co. and put so much vim into his work that they wonder if they can keep him supplied with cars. He sold 19 cars in December, or nearly 100 per cent more for a monthly average than when with Studebaker. The first week in January he averaged one a day. The company has the agency for Paige, Grant, Nash, Hupmobile and Maxwell cars and the Signal truck.

Prefacing a story about Hunter, who is credited by the Worcester "Telegram" as being the premier motor salesman in that city and Worcester County, it says:

"How would you like to have a multi-millionaire business concern offer you wages of \$10,000 a year, with pickings on the side to go to work for it? How would you like to have several such concerns patting you on the back, and in a sense asking you what'll you have, trying to get you on their payroll? Feel pretty important about it; yes, no? Well, that's the plight of a Worcester young man who has resolutely, courteously, but not regretfully, rejected all such flattering suggestions; he says that he can make as much, if not much more, right here in Worcester this year, in the same line of business, which happens to be selling automobiles."

Mr. Hunter modestly disclaims credit for himself. He has some well defined ideas, however, on salesmanship, which any dealer will do well to consider. He says:

"There are four maxims that I bear in mind when I'm out selling a car. An agent can talk himself into a sale and then talk himself out of it; a good car is half sold when a customer looks at it; I let the car help to sell itself; a woman at the buying end makes it all the easier.

"I am going to explain that fourth expression. I mean that if I am trying to interest a Worcester man in a car, I find out if he's married and so on, and I invite the lady out to inspect the car with him. If the wife comes along it's easier to make a sale than if the husband goes it alone. Most likely he'll want to try half a dozen other makes before he decides, and if he goes out that door, some other agent will grab him and pin a red

wife together if they are planning on buying a machine, not one at a time. Take 'em both out. If they have a criticism they will unfold it to you, and it's up to the salesman to show them where they're wrong.

"But here's a tip for the rest of the crowd that lingers a month over a sale, don't suggest a demonstration of the car, let the suggestion for a trial spin come from the buyer. A man or woman who asks for a tryout is interested, and two out of three features have been placed in the salesman's hand. The third is to close the sale, and the car will do that as it rolls along.

#### Don't Knock

"Don't knock the other fellow's car; you may be selling it next year yourself. Don't pass out a punk cigar to a prospect; if you can't slip him a good

one, refrain. A noisome 5-cent imperfecto has blasted more sales for ambitious Worcester car salesmen than all the backfiring and balking in the world. It's the surest sign of a low-grade salesman with a low-grade car to hand out a low-grade torch. Watch that salesman until his imitation fur coat blows open, and I'll bet a self-starter that he is backed in behind a fake diamond, a real rhinestone."

#### A Car Laundered Every Twenty Minutes

Birmingham, Ala., boasts of an automobile laundry where nothing is done except washing, polishing, greasing, and charging batteries, and the record for the first five months shows that a car was turned out on an average of every 20 min. This with a capitalization of but \$3,000 and with but five employees makes it look like a profitable venture when it is considered that all work is strictly on a cash basis. The company is headed by W. W. Stine, who was formerly General Agent of the Gulf Coast Railroad. Following is his table of rates:

	Small	Medium	Large	Extra Large
Washing .....	\$0.75	\$1.00	\$1.25	\$1.50
Polishing .....	.25	.25	.25	.50
Greasing .....	1.00	1.25	1.50	2.00
Engine cleaning..	1.25	1.50	1.75	2.25

Doing a cash business, the company is not bothered with bookkeeping. A tag is wired on each car as it is driven in and the bottom of this is torn off and kept by the owner. The top half is the record of the operation, giving the time required to render the service asked.

#### Motor Carnival for Montreal

MONTREAL, May 10—The Montreal Automobile Association, in an effort to revive the interest and limelight of the old days, will hold a carnival of motor sports, June 28. The programme is being arranged by Secretary Thomas C. Kirby, and President M. J. Stack has donated a loving cup as one of the first prizes.

## If HE Could Do it YOU Can Do it

tag on him with the word 'sold' on it. But if milady comes along, it's a sale. A woman can make up her mind quicker than a man, and they have a shrewdness in buying that every man doesn't have. I like to have the husband understand the mechanism of the car and the wife like the looks.

"There is one particular feature about selling automobiles, though, that I guess I can divide with the other boys in the same line. It's this: Don't try to sell an \$800 car to a \$3,000 customer, and don't try to sell a \$3,000 car to an \$800 customer. That's the great end of the game, to size up your customer and place him in the right cage. Lots of good scouts who want to own a \$5,000 car make believe that that's their size, and it's up to the agent to size him up right and steer him gently over to the moderate priced cars.

#### Give the Car a Chance

"Don't crowd your prospect," said Hunter, "Let the car help to sell itself. A customer who comes looking for a Ford comes with the Ford idea firmly fixed in his mind. Don't try to switch that Ford customer with his mind all made up to a higher priced car. You'll most likely lose a sale, and a lost sale means a lost commission.

"When a man or woman is interested enough in any make of automobile to drop in after reading the ad in the paper, the sale is half made. The salesman who cannot close a prospect that drops in like that could not sell lobsters at a church sociable. The paper actually says to the customer: 'There's a car just like what you want over at such and such a place.' The customer takes the hint and drops in. It is my duty to show him the fine points of the car and to tell him a few things about it, but not too much.

"A salesman can talk himself into a sale, and out of it again.

"I find that it is always the best thing to demonstrate a car to husband and



## WHAT TO SAY WHEN THE PROSPECT SAYS:



# My Old Car

# Is Worth More



## THE THIRD

In a Series of Five  
Car Sales Stories

By RAY W. SHERMAN

"HERE'S one I buck up against ALL the time!"

Young Roper, junior salesman, ambled into Reilly's office, where the boss and his sales manager, Tommy Trumbull, were engaged in a rather informal bit of conversation which looked to Roper as though it might be interrupted without disastrous consequences.

"Yes. What?" said Reilly.

"Well," explained Roper, "it's this bird who thinks his car is worth a million dollars. No matter what he is offered, he thinks it is worth more."

"Yes," smiled Tommy; "I have found such birds in isolated instances."

### Arguments That Helped

"You know," said Roper, "all those arguments we figured out on those guys who are waiting for lower prices and who don't want to buy until day after tomorrow have helped me a lot, and I'd like to see our next meeting settle the hash of this bird who wants you to give him a couple of hundred dollars so he can buy a new car from you."

"Looks like a good topic," said Tommy.

"It IS good," said Reilly. "It has been good for fourteen years to my personal knowledge. I think it's about time we laid this gent out and ended the parade of wonder-car owners."

"I'm for it!" declared Roper.

"Well, in the first place," speculated Reilly, "it goes without saying that our job is first to sell OUR car to the man and keep away from a discussion as to the value of his car. The stronger our sales work is on OUR car the easier it is going to be to get his old car at our price."

"Sure!" Roper agreed. "We're all sold on that, but every little while you meet a bird who keeps coming back and coming back to this old argument about how much his old car is worth. He admits he likes our car, probably will buy it and all that sort of thing, but he's like a bar-fly—he keeps coming back to the same old place, and you don't seem to be able to shoo him away so he'll stay."

### Hard Nut to Crack

"He is a hard nut to crack," Reilly replied, "but I've been able to handle some of them successfully, especially if they have any sense at all. Of course, if the only thing in the world a man can see is the price of his old car, and if he is a hard-headed individual who has set out with only that object in view, you often have to step on him firmly and tell him your terms are final and that you are merely wasting HIS time by discussing the subject further. There ARE certain sales that it is better to lose. They help business in the long run."

"But if there is any use at all in trying to sell the prospect, I would go at him something like this: As a starter, let us assume his car cost a thousand when new, you have offered him five hun-

dred and he wants seven hundred. Your difference is two hundred dollars.

"He says his car is worth seven hundred dollars. I tell him that he is right but that, while it may be worth that much to somebody who will take it and use it, it is not worth that much to us. Furthermore, before it will be worth seven hundred to any man other than himself it will have to be fixed up, and here you get in a fine David Harum lick by showing him all the things that there are the matter with his car and which he perhaps hadn't seen in just the light you can present them."

### Talk Convenience to Him

"Then ask him if he doesn't find it very convenient to be able to come to our salesroom to look over the cars that are produced by a factory two hundred miles away instead of having to spend his time running down to the factory. Ask him if he doesn't want to buy a car which has a service station in Callawassa to take care of his needs if he ever requires assistance."

"Then tell him that you are in the business of providing such a convenience and service for him, and that to do this you have invested your money and keep an organization of men and women at good wages so that he may get maximum value out of the car he buys. All of this costs you money, and to continue in this business you must make money."

"Tell him, also, that the people of Callawassa are proud of their city and its growth. They are proud of its pretty homes and prosperous businesses, and that any man who engages in busi-

(Continued on page 45)

### The Five Stories in the Series Are:

- 1—"I'll Wait for Lower Prices".... (April 30)
- 2—"I'm Not Ready to Buy Yet".. (Last Week)
- 3—"My Old Car Is Worth More".. (This Week)
- 4—"Your Price Is Too High"..... (May 21)
- 5—"Your Competitor Cuts Prices"... (May 28)



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### Can't Find Owners

Editor Motor World: We have two cars, one of which has been stored with us since last November and the other since last July. We do not know the exact address of the owners and have been unable to get them to pay any storage, and we would like to know from you whether or not these cars can be sold for storage. If so, what proceedings shall we take in order to dispose of them in a way which would be absolutely legal.—Republic Garage, Republic, Mo.

**Answer**—In the last compilation of garagemen's lien laws which appeared in Motor World a few months ago Missouri was listed as one of the states in which garagemen have a common-law lien. That is, they have the right to hold personal property on which they have performed labor or to whose value they have added by furnishing materials. There is apparently no state statute in Missouri giving a separate and specific garagemen's lien.

Under the circumstances, we cannot inform you what the statute provides. The only safe way for you to foreclose in any event, however, is to do so through a duly qualified member of the bar of your state, as if you attempt to do it yourself the chances are that you will involve yourself in trouble and expense.

### Still Owes \$90

Editor Motor World: I would like your opinion on the following proposition: My salesman made a prospect the correct price on — Sedan. The next day (Sunday) he came into me and talked over the deal. I quoted him by mistake \$90 less than the regular price and settled by note for the car.

Next day I found I made the mistake and called him up by phone. He came in and I explained my mistake; I told him I would have to have the additional amount or would take the car back. He finally said, "Charge it to me and I will give you a check later." I did so and have sent him statements, but he doesn't come around.

Now my policy is the first time he brings the car in for anything to hold it for payment of the balance due, \$90. Can I do so? May I do so without a suit?—Oschsenreiter Garage, Webster, S. Dak.

**Answer**—There is a serious question in my mind as to whether or not there

was any promise on the part of your customer to pay the additional \$90. If there was no consideration for this promise, you cannot recover it. I do not think you have any right to hold the car for this \$90 if it ever is brought into your garage. The best thing you can do is consult your local attorney, as there are any number of facts which must be explained by you before you can be properly advised.

### Is This Proper?

Editor Motor World: On Feb. 17 the —Motor Co. shipped us \$357.80 worth of repairs. The draft was not paid until after Feb. 25. They accordingly issued a debit memo of \$17.88, being 5 per cent on the invoice. Will you please advise us whether or not they were correct in doing this.

I am sure that I read in your paper some time ago an item stating that this was not correct, but I do not have the issue before me and I would like to have your advice on this.—Rosenberg Hardware Co., Lexington, Neb.

**Answer**—I cannot find the item to which you refer. It is a common enough practice to do what you say was done in this case, and the amount involved is so small that it would hardly be worth the time you would have to spend and the trouble you would have to go to to establish the fact that this is not a correct charge. There would certainly be no harm in your so advising the company, however.

### Mail Driver Must Be Licensed

The question as to whether a city or town or the state has jurisdiction over drivers of mail wagons came in court at Brookline, Mass., a few days ago. One of the drivers of a mail wagon had been operating without a license, and also in a manner that made some of the people angry because of his disregard for danger. So he was summoned into court. He admitted that he had not taken any examination for a chauffeur's license, or that he had applied for one. One of the attorneys for the U. S. Department of Justice appeared for the Government and contended that an employee of the Government was not amenable to state or city laws, and that he could drive without being licensed. But the judge found him guilty. There are many other mail drivers operating without licenses, and the Government attorney said he would

take an appeal to the United States court on the matter.

### This One Is Funny

The Supreme Court of Iowa, in a recent case, said that a "sidewalk is to be defined as a part of the street exclusively reserved for pedestrians and constructed somewhat differently than other portions of the street used by animals or vehicles generally." Apparently, in Iowa, dogs and baby carriages keep off the sidewalks, and even automobiles do not dare to cross.

### Order Blanks Good Contracts

According to a decision of the Supreme Court of the City of New York handed down in a case tried a short time ago the usual form of order blanks used by dealers when selling cars contain enough of the details of the transaction to constitute a binding contract.

A dealer was sued by a customer for breach of agreement to sell him a Ford town car on time. The customer testified that he had negotiated for the purchase of this car and the exchange of his old car with one of the salesmen. The salesman thereupon presented an order blank containing all the terms of the sale and it was signed by the customer and the salesman, the dealer's name being at the top of the order blank.

The dealer's treasurer testified that these order blanks were furnished to salesmen "for selling cars and marking the price and deposit." The dealer afterward sent the customer a "retail buyer's order agreement" which the customer refused to sign on the claim that its terms were entirely different from the terms in the order blank. After the customer refused to sign the latter contract, he brought suit under the original order blank.

The court held that the order blank was a perfectly good contract and that the salesman's signature meant that the order was accepted for the company, and implied a promise on the part of the dealer to sell the car according to the terms contained in the order blank—Moskowitz vs. White 166 N. Y. S.

### Rolls Royce to Manufacture in America

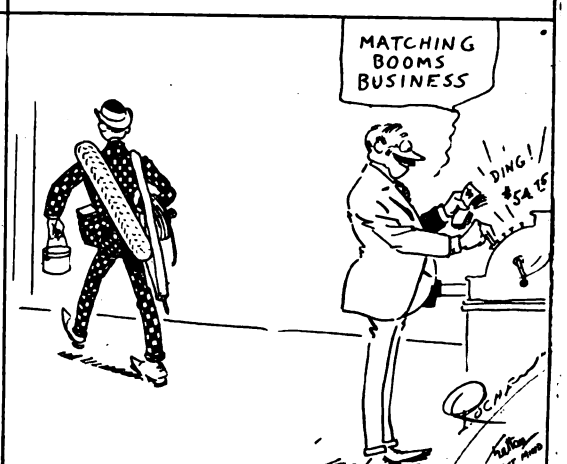
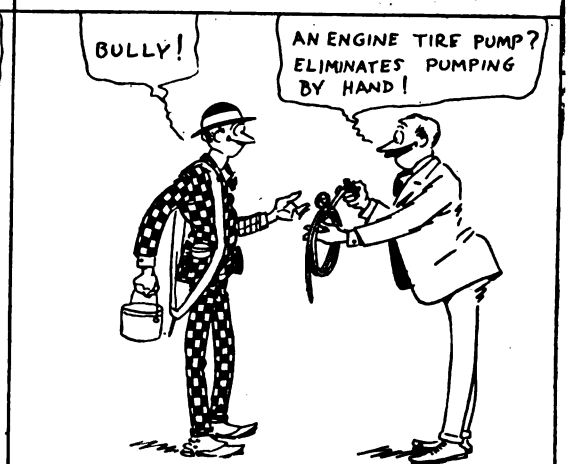
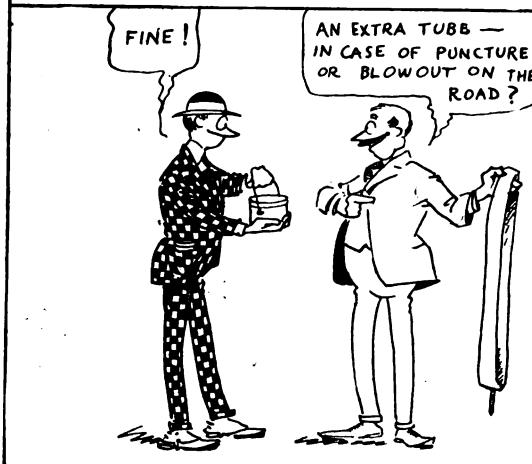
NEW YORK, May 10—Rolls Royce, Ltd., London, Eng., is preparing to manufacture in America. No definite location has yet been named but it is understood that the plant will be somewhere in the eastern part of the United States.





# TAKE A TIP *from* THE HAT GIRL

*If she can do it in her hat store—and she does—why can't you do it in your business?*

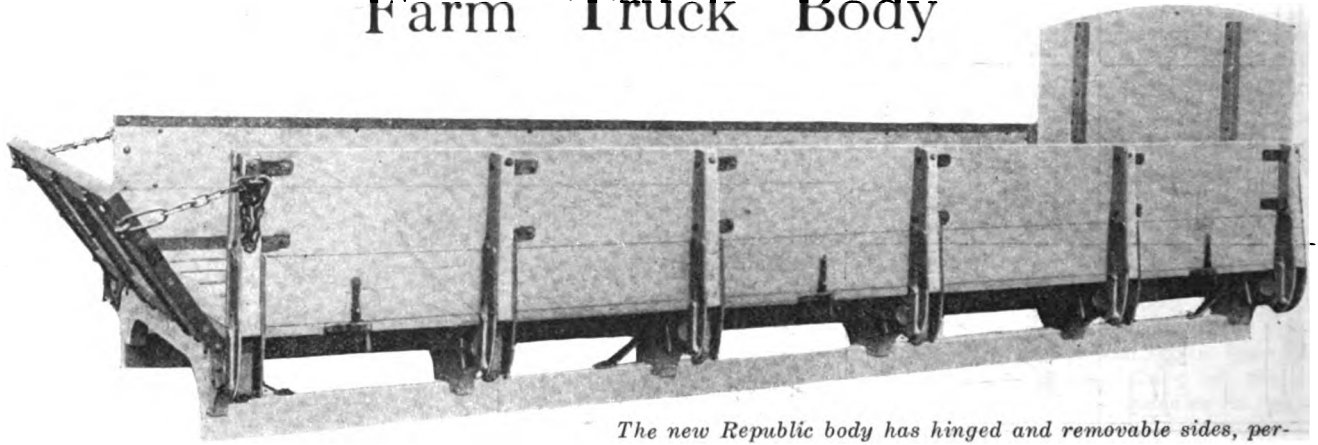


**T**HERE are many, many instances like those illustrated on these pages. There are many such instances in other lines than yours. There should be more in **YOUR** line. You buy shirts, collars, neckties, gloves and many other things that you never intended to buy when you went into the store, but the salesman sells them to you. Just as he "picks on" you and makes more money for his store, why don't you "pick on" the people who come to your store and sell them things they didn't come after but really **NEED**? They'll be glad afterward, just as you are glad you bought the shirt or necktie you didn't intend to buy. There are many groups of supplies that "match" around the idea of tires, car cleaning, safety and other things. Try this matching idea and see how much you make that you didn't expect to make



# There Are Eight Sales Features

## In This Convertible Farm Truck Body



*The new Republic body has hinged and removable sides, permitting quick changes to suit the body to a number of uses*

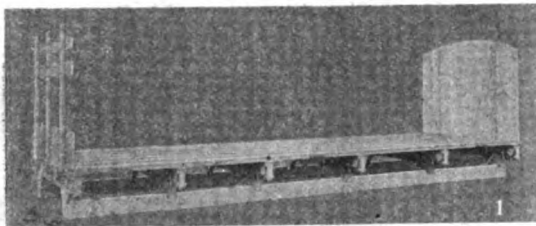
**A**N all-purpose farm truck body has been brought out by the Republic Motor Truck Co., Alma, Mich., for use with Republic trucks. The body is designed to give the farmer a wider range of use for his truck. Eight complete types of bodies are combined in one, and so designed that one man can adjust the body to any desired type in a few seconds.

The body is made of kiln-dried hardwood lumber and well ironed so as to prevent rattles. The bodies are made in two sizes, known as No. 1 and No. 2. The No. 1 body is 9½ ft. long and is a combination platform and wagon box. The bare body sells for \$115. No. 2 body is 11½ ft. long, similar to the other, and selling for \$135.

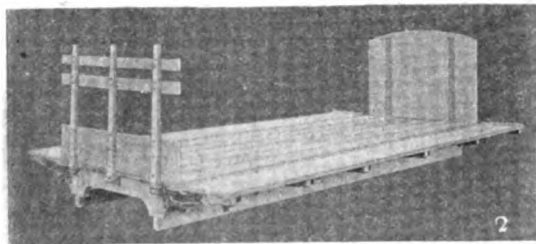
The extra side racks to convert the

body into grain, fruit and cattle types are \$33 on the No. 1 size and \$36 on the No. 2. The weight of the No. 4 body, combination platform and wagon box only, is 500 lb. and of the No. 2, 600 lb. All the paint work on these jobs is standard green with light green stripes.

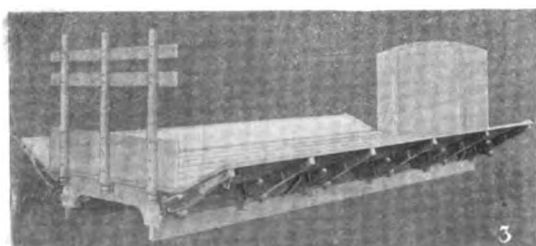
The different types of bodies are illustrated here, and some of the purposes for which they are intended are outlined.



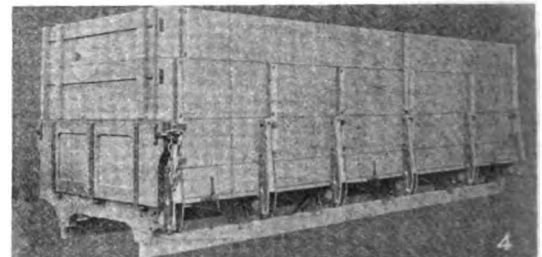
1—With the sides removed the body is particularly suitable for stone hauling



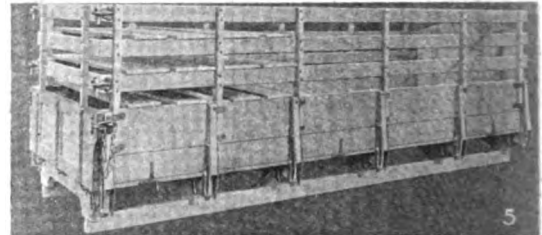
2—With the sides laid flat, the body will do very nicely for baled hay



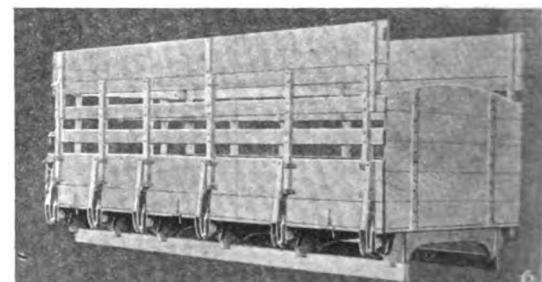
3—And this way it is useful for hauling grain, wheat, oats, corn stalks



4—This way, with the high sides, it will handle fertilizer and produce



5—This arrangement is good for hogs and sheep as well as for small fruits



6—Cotton, or other bulky produce, and also cattle can be handled like this



# A Department of BETTER MECHANICS

No. 104

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## The Chevrolet Model 490 Gearset, Universal Joint and Rear Axle

*Best Method of Removing, Disassembling and Overhauling the Various Members in the Transmission System*

**T**HE following operations on the Chevrolet 490 are approved and recommended by the Chevrolet Motor Co., and are used in Chevrolet service stations throughout the country. These operations have been compiled into the Chevrolet service manual.—Editor.

### I—Removing the Gearset

- 1—Disconnect and remove the rear axle, propeller shaft and brake-pull rods.
- 2—Remove the toe and floorboards from the front of the body.
- 3—Disconnect and remove the gearset top-cover assembly which consists of the shifting lever and yokes.

- 4—Disconnect and remove the gearset wishbone hanger support. Remove the cap screws which fasten the gearset case to the supports.

- 5—Slide the gearset to the rear until the drive gear shaft is disengaged from the clutch drive ring.

- 6—The gearset may now be lifted out.

### II—Disassembling the Gearset

- 1—Remove the gearset assembly.
- 2—Remove the universal joint.
- 3—Remove the main-shaft-gear bearing cap, forward end.
- 4—Remove the universal-joint ball retainer, rear end.

- 5—The main shaft and ball bearing are now removed by placing a bar of soft metal or a block of wood inside the gearset case against the clutch gear and delivering several sharp blows with a hammer as shown in Fig. 2.

- 6—Take the spline shaft out through the forward end.

- 7—Remove the high and intermediate sliding gears.

- 8—Remove the cotter pin which holds the countershaft and drive the shaft out through the rear of the housing.

- 9—Pick out the counter shaft gears.

- 10—Remove the pin which holds the idler-gear shaft and drive the shaft out through the rear end of the housing.

- 11—Put the main-shaft clutch gear in a vise with the outer ring of the bearing resting on the top of the jaws as shown in Fig. 4.

- 12—Hold a block of wood against the end of the shaft and strike several sharp blows with a hammer until the bearing is released.

- 13—Open the jaws of the vise wide enough so that the countershaft sleeve will pass through.

- 14—Drive out the sleeve and the four round keys with a soft bar and hammer.

### III—Removing the Universal Joint

- 1—Remove the rear axle and propeller shafts.

- 2—Separate the universal joint collar from the ball socket by removing the clamp bolts.

- 3—Separate the universal-joint rings by removing the bolts.

- 4—Remove the yoke.

- 5—Unscrew the nut which holds the forward yoke to the gearset spline shaft.

- 6—Hold a bar of soft metal against the threaded end of the gearset shaft and hit several sharp blows with a hammer to loosen the yoke.

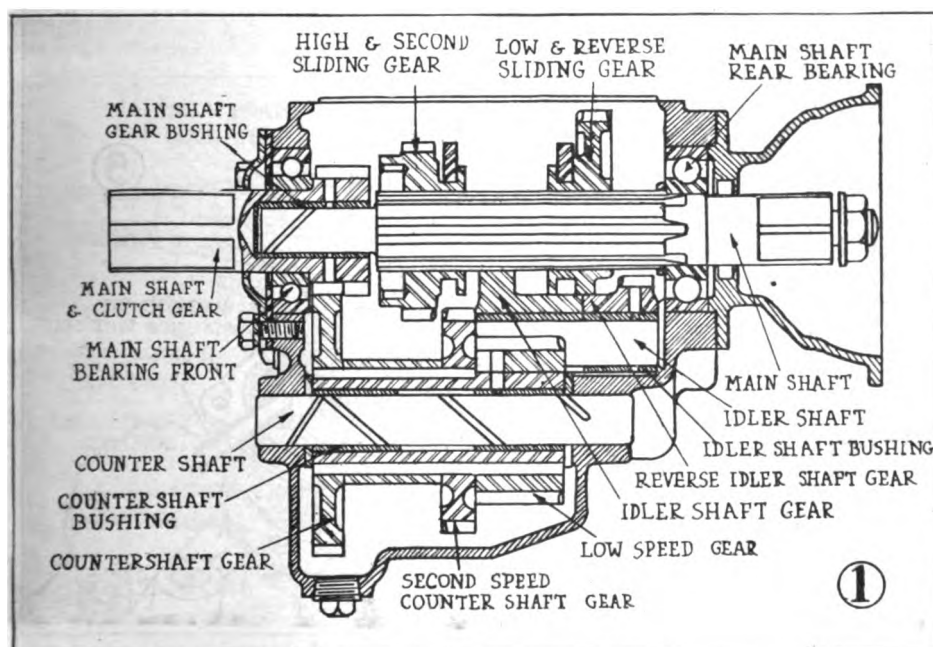


Fig. 1—Sectional view of the Chevrolet 490 gearset



7—If it is impossible to remove the yoke by this method, reinstall the outside ring and with two long metal bars placed in the opposite holes of the joint rings, force off the yoke from the squared shaft by pressing the bars down against the flange as shown in Fig. 5. The bars to be used for this purpose should be about 18 in. long.

#### IV—Removing the Rear Axle Assembly

1—Place two jacks under the rear spring brackets, one on each side, and raise the rear end of the car far enough to take the weight off the springs.

2—Remove the clips and bolts holding the springs to the axle housing.

3—Disconnect the brake pull-rods which operate between the pedals, hand brake lever and the rocker shaft on the propeller-shaft housing.

4—Slide the axle assembly from underneath the car.

#### V—Disassembling the Rear Axle

1—Remove the four bolts that clamp the propeller-shaft housing to the rear-axle housings and lift off.

2—Remove the pinions bearing-lock stud and with a lead hammer or piece of hard wood held against the splined or universal-joint end of the propeller shaft, drive the shaft and bearings from the housing.

*Be very careful not to batter or damage the splined end of the shaft. If a few blows will not loosen the bearing, look the housing over very carefully. A small burr will easily prevent the bearing sleeve from sliding out.*

3—Remove the cotter pin which locks the adjusting nut on the drive shaft.

4—Unscrew the adjusting nut so that there is  $\frac{1}{8}$  in. clearance between the nut and the thrust bearing. It is extremely important that this be done before going any further.

5—Remove the cotter pin from the drive-pinion nut.

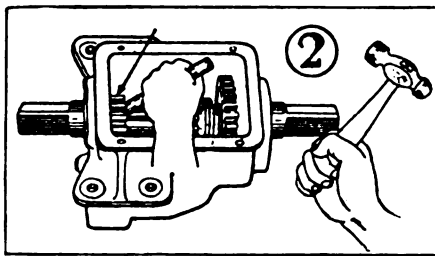


Fig. 2—Removing the main shaft and ball bearing

6—Unscrew the nut.

7—Place a block of soft wood on the floor and, holding the shaft in a vertical position, drop it so that the threaded end strikes on the block. This is usually sufficient to loosen the pinion, but should it not come off, it can be pried loose by slipping a bar between the back of the pinion and the bearing sleeve.

8—Slide the bearing off the shaft.

#### VI—Adjusting the Thrust Bearing

1—On the inner bearing race there is a slot which should engage the end of the pinion-gear key.

2—Draw the adjusting nut up snug against the thrust bearing. Do not get it too tight, but just tight enough so that there is no end play.

3—Insert the cotter pin and spread it.

4—If the castellated nut will not come in such a position that the cotter pin will slip through its hole without making the nut too tight or else too loose, it will be necessary to make a washer out of sheet brass or tin and insert this between the adjusting nut and the middle thrust bearing washer. Be sure to insert and spread the cotter pin after fitting the washer.

#### VII—Replacing the Propeller Shaft Assembly in the Housing

1—Stand the propeller-shaft assembly in a vertical position with the gear down and slide the housing over the shaft.

2—At the upper end of the housing there is a bushing through which the shaft must pass.

3—Line up the bearing-lock stud hole in the housing with the one in the outer bearing race. After the hole in the race has disappeared into the housing its location can be determined by the slot in the end of the race.

4—Do not crowd the bearing and do not hammer on the end of the shaft. Doing so may either loosen the pinion gear or break one of the balls in the thrust bearing.

5—Insert the pinion bearing lock stud and screw it down tight.

#### VIII—Removing the Differential Assembly

1—Slide the rear assembly from beneath the car.

2—Remove the propeller-shaft housing assembly.

3—Take off the rear wheels.

4—Remove the clamping bolts that hold the two halves of the axle housing together.

5—Slide the housings off the shafts.

6—The differential case is in two halves which are held together by clamping bolts, and when these are removed the cases can be separated.

7—Lift out the differential and spider gears.

8—Remove the axle shafts with side gears attached.

9—To remove the differential side gear, press the gear on the shaft toward the tapered end as shown in Fig. 10.

10—This will release the two split lock rings.

11—Press the gear off the shaft.

#### IX—Adjusting the Rear Axle Gears

1—Assemble the differential and axle shafts.

2—Paint the teeth of the drive gear with lamp black or other suitable water color.

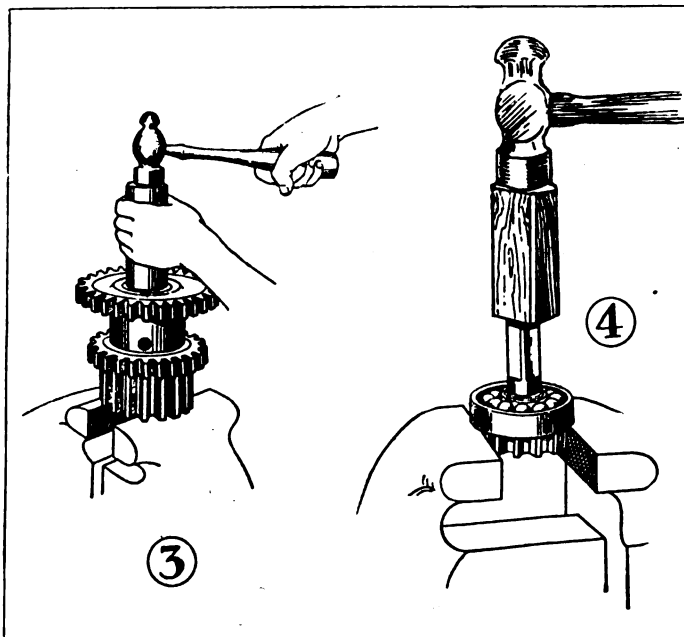


Fig. 3—Disassembling the countershaft

Fig. 4—Removing the bearing from the main-shaft clutch gear

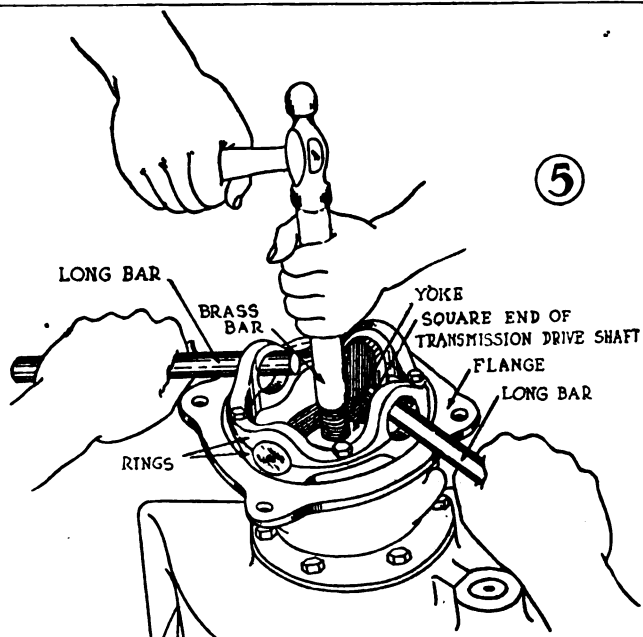


Fig. 5—Removing the universal joint yoke with two bars



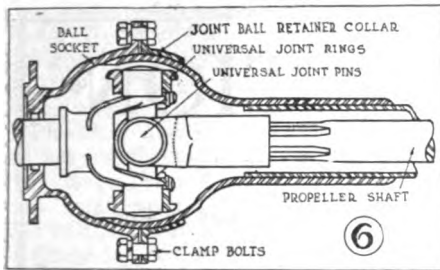


Fig. 6—Universal-joint ball and socket

3—Slide the axle housings in place and bolt them together.

4—There should be no side play in the differential and it should turn freely.

5—Install the propeller shaft housing assembly. Place one light and one heavy metal shim and also a paper gasket between the propeller shaft and axle housings.

6—Grip the splined end of the propeller shaft with a wrench and turn it around for at least twenty revolutions.

7—Remove the filler plug in the axle housing and by throwing a light into the housing with a trouble lamp or a mirror, note the marks made by the pinion on the drive-gear teeth. If things are as they should be, the bearing should be along the entire working surface of each and every tooth.

8—If there is any unevenness shown, remove the propeller-shaft housing assembly, separate and remove the axle housings.

9—There are several thin metal washers between the differential thrust bearings and the differential case. To move the drive gear to the right, take out one shim from the right side and put it on the left side. To move the drive gear to the left, take out one on the left side and put it on the right side.

10—If the marks show that the teeth are bearing on the thick or outer edges of the teeth, move the differential to the left.

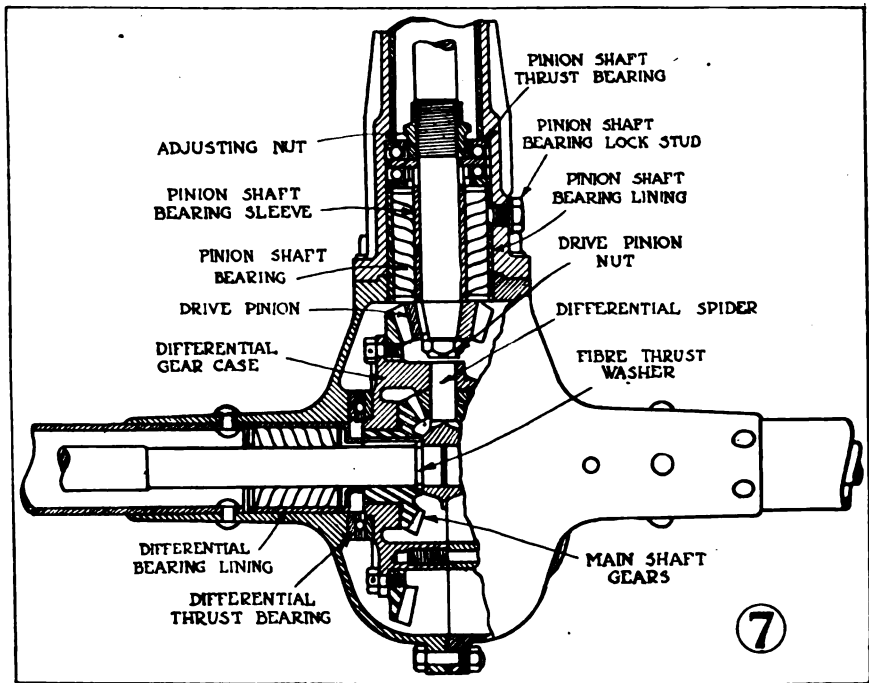


Fig. 7—Sectional view of the rear axle

11—If the bearing is on the inner edge of the teeth, move the differential to the right.

12—After the adjustment is correct, assemble the axle housings and bolt them together.

13—Replace the propeller-shaft housing assembly, putting the shims and gaskets between the propeller shaft and axle housings.

14—When the teeth bear properly, test for back lash or lost motion between the gears.

15—Hold the drive gear with a screwdriver passed through the filler plug hole. Turn the propeller shaft and note the movement obtained. This represents the amount of play between the gear teeth. This should be very slight, just enough to permit the gears to revolve without binding.

16—If there is too much back lash, remove the light shim from between the propeller shaft and axle housings. It may even be necessary to remove the heavy shim to get the correct mesh.

17—If the gears are meshed too tight, causing a bind, additional shims must be placed between the housings.

18—Apply the proper lubricant to the differential after the adjustments are correct.

#### X—Fitting and Replacing the Drive Pinion

1—Make a careful examination of the pinion-gear key and see that it fits the slot in the shaft snugly and that the edges are not rounded.

2—Spread a thin coating of Prussian blue in the tapered hole in the pinion gear.

3—Slip the gear on the shaft and draw up the pinion nut tightly.

4—Remove the pinion and observe the markings of blue which will have been transferred from the pinion to the shaft. If the bearing is even, the blue mark will be transferred evenly, whereas a poor fit will show blue only in spots.

5—If the gear is a poor fit, remove the key and smear the hole in the gear with some valve-grinding compound, slip the gear on the shaft and rotate it backward and forward several times.

(Continued on page 45)

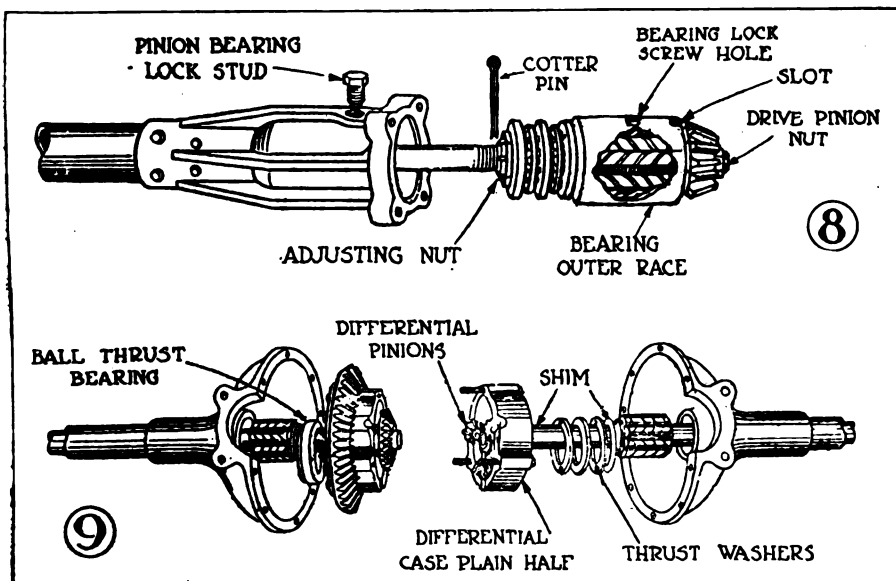


Fig. 8—Removing the propeller shaft. Fig. 9—Removing the differential

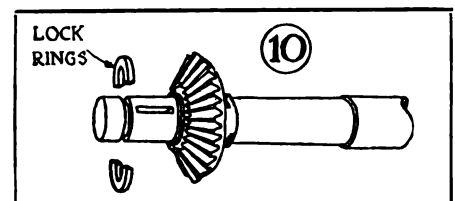


Fig. 10—Removing the differential side gear



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

### *Frontage on Two Streets*

**Character of business**—Sales, service, painting, battery repairs and accessory sales.

**Details wanted**—Lot with frontage on two streets with an alley on one side. The frontage on the two streets is 120 x 180 ft. Two-story building with elevator or ramp, salesroom, rest room, accessory store, battery service room, dead storage, repair shop, paint shop, live storage.

**Name**—Dimond Motor Sales Co., Benton, Ill.

**Answer**—Your plot is so large that we are not quite sure that you intended to use all of it, but, lacking more definite knowledge, we have drawn the plan for a two-story building covering the whole of it.

A ramp is much more satisfactory in a building this size than an elevator, and therefore one has been used.

There is a large showroom, a good-sized accessory store, an adequate office and ample rest rooms for men and women. The battery service work is taken care of in a separate store, which

has the battery shop directly behind it. Compared with the sale of accessories and cars, battery charging is rather rough work and therefore it seemed advisable to have a separate store for handling this business. There is no reason why you cannot keep this store very busy. We should also advise you to specialize on vulcanizing as well as all branches of electrical work. These lines can be handled nicely from this same store, which we might call a service store. Remember that every department of your business brings business sooner or later to the other departments, so every new line that you can handle successfully means more business all along the line. If you can run a battery service department successfully there is no reason why you cannot run a general electrical service station, and no reason why you cannot operate a vulcanizing department at a big profit.

We are not so sure but that you would like a used car showroom included in this plan, or perhaps a truck or tractor showroom or both. We shall be very glad to modify the plan to accommodate these departments, if you so desire.

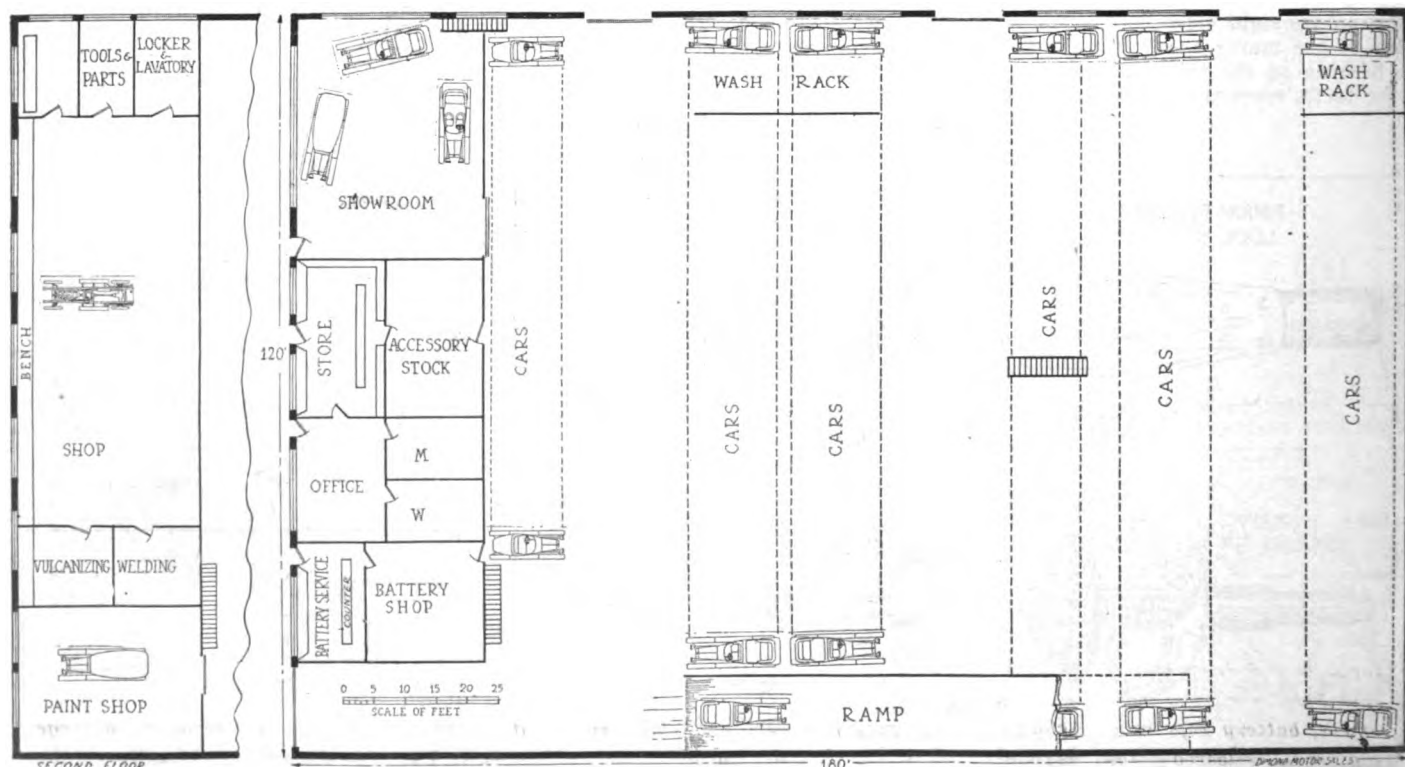
A standard arrangement has been used in storing the cars on the first floor. For the sake of economy of space another

arrangement, quite standard but not just as well known, has been used on the second floor. You can, however, use the first floor arrangement on the second floor, if you prefer.

Just on the chance that you are not familiar with this arrangement we will explain it to you. You will note that one row of cars is behind the other row. Therefore, the floorman, in placing the cars each night, should see to it that the cars in the back row are those which are going out late in the morning, and those in the front row are going out early, so that the cars in the latter will be well out of the way before the former are called for. The same applies to the other rows. Cars in single rows should be those which are likely to go out any time.

We were, of course, forced to guess at how large a paintshop and repairshop you wanted. If the dimensions are not satisfactory we shall be very glad to redraw this feature if you will supply the information needed.

The accessory display window extends not only across the front of the accessory store, but also the office. This arrangement does not interfere with the light in the office and at the same time it gives you a lot of valuable display space.



First floor and part of the second floor designed for the Dimond Motor Sales Co.



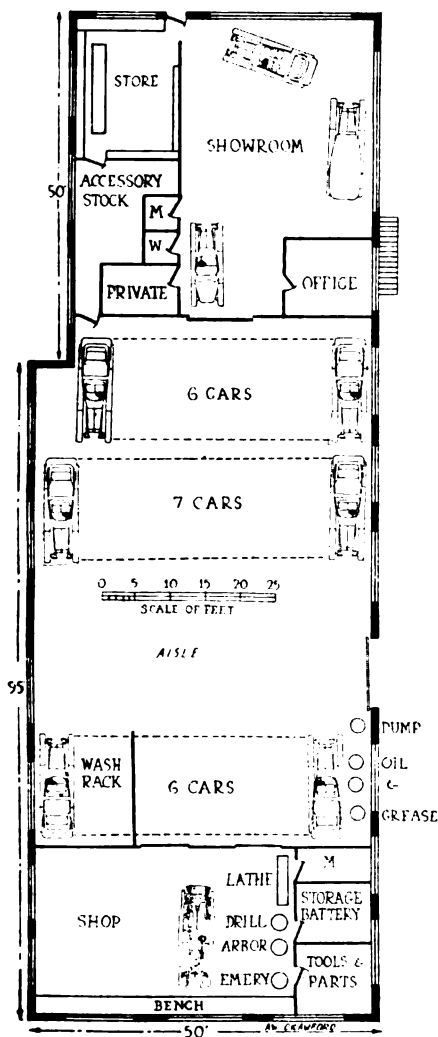
Be sure to use it to best advantage. Read Motor World and adopt suggestions that are given on window dressing from time to time. Change your window display every week.

Please do not say that this advice is all very well for the man doing business in a large town, for it does not matter how small your town is, modern methods will pay. Even if you had this new building located at a country crossroads you would still find that a showroom and an accessory store would pay. No matter where you are located you cannot get the most out of your efforts unless you are properly equipped.

### Storage for Nineteen Cars

**Character of business**—Storage, car and tractor sales, repairs and service.

**Details wanted**—Showroom for cars and tractors, stockroom, private office, storage battery room, repair shop, space for retail sales, accessories, etc., gasoline pump, wash



This plan, drawn for A. M. Crawford, has a capacity of nineteen cars and room is provided for offices, battery repairs and charging, shop, salesroom for cars and tractors and accessories

rack. The property does not run to the line on the front street but is 4 ft. back. This applies to the existing building, and the new building will be the same distance back. Name—A. M. Crawford, Wingham, Ontario, Canada.

**Answer**—The plan shown here has been drawn exactly to meet your needs. We were uncertain as to whether you wanted the old building included in this design, but decided that you did not.

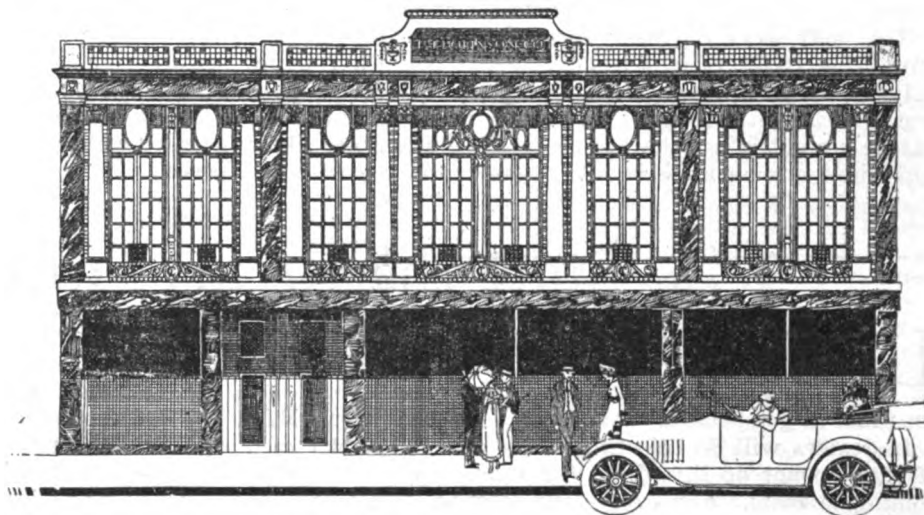
You should have two gasoline stations, one on Main Street and another at the garage entrance. The former is to serve customers who stop at the accessory store. Another reason for locating it here is because of its convenience to Main Street traffic. At the same time you will probably require a pump in your garage and so we have also placed one there, directly inside of the door.

In case you are not familiar with the car arrangement which we have selected for your garage, let us explain that we have placed two rows of cars on one side of the aisle because this is the most economical utilization of the space which you have. You may wonder how a man with a car in row C is going to get out until the car right in front of him in row B is out of the way. The solution is this: Cars in row B should be machines which come in late and leave early, and cars in row C should be those which leave late and come in early, while those in row A are ones which cannot be so classified. Every time a new customer comes in, inquiry by the floor man will show whether he can be assigned to one of the three rows permanently or whether his plans for the next day must be ascertained each night and the position of his car regulated accordingly.

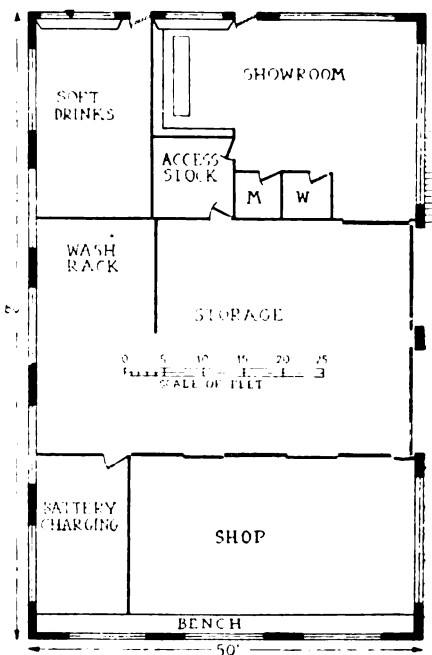
The plan we have drawn makes it desirable to use the full 130 ft.

### Brought Him \$5,000 in Business

Editor Motor World: I can really say that through your magazine last year I closed over \$5,000 business off leads furnished by new garages being built.—J. A. Conrad, Omaha, Neb.



This is a very elaborate front suitable for a high-class salesroom in a large city. The decorations are meant to attract the eye with their richness and the second floor might be used for administration offices



One-story building for I. O. Iverson

### For an Inland Village

**Character of business**—Service, storage, sales and a room for ice cream and soft drinks.

**Details wanted**—One-story tile block building on a lot 50 x 80 ft., basement 20 x 40 ft. for furnace and coal, showroom, accessory store, soft drinks, repair shop, office, storage, washroom, battery charging room.

Name—I. O. Iverson, Perry, Wis.

**Answer**—The plan we have drawn for you is exactly as you requested. The garage is small, as might be expected. To get the most out of the space we have put in two large doors and suggest that you pack the cars in the spaces the way you would blocks of sugar in a box. By this method you may squeeze twelve cars into the space.



# Editorial Observation

## Watch Your Lawmakers

**T**HINGS that have happened in a couple of western states bring home to dealers everywhere the need for watchfulness on legislative matters. It is easy for a drastic card to be slipped into the legislative deck when no one is looking. The first warning comes when the trade finds itself tied up in a bad knot. Preventing the legislation is many times easier than undoing the trouble.

In two western states laws have been passed which give the customer an unreasonable whip hand in the tractor business. He can use a tractor all summer and then hand it back to the dealer on the flimsiest of excuses. If this has been done twice, what is to prevent the same thing being done half a dozen times more in that many states?

Watchfulness is needed. It is not enough for the trade to depend on newspaper reports for its warnings. State and local associations should have men

on the job to spot these bills when they are introduced, so that an effort may be made to kill them in committee. A bit of judicious work at this stage is easy and inexpensive compared with any effort to defeat the measure once it gets out on the floor.

It may cost a little money to maintain such watchfulness, but isn't it better to spend it there than to spend a lot more later on? It was never truer that a "stitch in time saves nine."

National watchfulness can help. States should watch their own legislatures and should notify the national association whenever a bill is introduced in order that the whole country may know what is going on. Often the national association will be able to help states in this work.

Some folks have an idea that the automotive trade was made to be picked on, and several years of vigorous defense are needed to upset this idea.

## Demonstrators That Nearly Prevaricate

**I**N some cities there has grown up a trade custom of fixing up the demonstrating car in a manner that savors of aristocracy, when comparison is made with the stock models. This practice ranges all the way from putting on slip covers or a radiator ornament to equipping the car with a complete special body.

In one city a dealer fitted his demonstrator with a special body, and the result has been that he slowed up his own sales. The public refused to believe that the factory was not about to come out with a new body and assumed a waiting attitude despite the protestations of the dealer.

The body work on some cars is far enough removed from the aristocratic without special attention being called to defects through a body that is not stock. What can a customer's frame of mind be when he finds the car he bought is not the car he gets? He is quite likely to believe our business is still a game, and it is not un-

reasonable to conjecture whether the dealer who sells one thing and delivers another does not consider his enterprise as rather gamey.

Too much of this special work makes selling harder rather than easier, because the customer must first be sold the demonstrator and then he must be sold the car he is really going to get. And this second sale is that much harder because he has the demonstrating body with which to support his contentions.

If a dealer is going to sell stock cars let him demonstrate with a stock model that is in good condition. If he wishes to make special body work a special side issue let him go into it as a regular and understood practice. There is profit in it. But to show a special model and deliver something else is hardly worth while for the dealer who hopes to retain his membership in the automotive trade and be with us a few years hence.

## Start the Roads Movement

**L**AST week Motor World suggested that the automotive dealer engage in conversation with some of the leading men of his trade or city in an effort to interest them in good-roads work. Have YOU done this YET?

If dealers will do this thing they can get good roads. If they do not do this thing the roads may be years in coming to them. And every mile of good roads means a great measure of prosperity rolling through the territory that is served.

Trucks can't be sold until there are improved roads.

Car sales will be restricted until there are good roads. Tractors are not profitable until there is some way of moving the crops. Good roads mean millions to America's automotive dealers.

The country is fairly well sold on the general idea of good roads. What is needed is that the local application of the idea be sold to the home-town folks with such emphasis that they will all get behind the movement in an organized way and BUILD THE ROADS.

Go out to-day and talk to somebody about good roads.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Get N. A. D. A. Help

Editor Motor World: The Floyd-Mitchell County Automobile Dealers' Association has been almost dead for the past two years, and we have had no success in trying to revive it. At the time we were going good I believe that we were of some use to all the members, and I felt that we were doing some good. The writer would like to see the association started again with a push that will carry it through, and I know that something of this kind is needed in this territory, and if you have any suggestions to offer in regard to reorganizing I will be pleased to have them. Unlike many associations that are dead, we have a little money left in the bank, and have always been able to keep up the current expenses. Please feel free to give any advice that you like.—A. H. Case, Secretary and Treasurer, Charles City, Iowa.

**Answer**—For a number of years Motor World has endeavored to furnish ideas and plans on organization for various associations throughout the country which wish to go more strongly into organization work. We have always been convinced that personal work was far more effective than letters, and on various occasions representatives of Motor World have traveled a considerable distance to lend their assistance in the formation of an association. However, it is now possible for many more local associations to have the benefit of personal assistance through the new plan of the National Automobile Dealers' As-

sociation, which now has field secretaries in different sections of the United States for the purpose of lending assistance such as you need. We would therefore suggest that you address a letter to Manager Harry D. Moock, of the National Automobile Dealers' Association, St. Louis, with the request that at the earliest possible moment the representative of the association be sent to your city to assist you in creating the organization that you desire.

## Who Wants a Soldier Manager?

Editor Motor World: Back home again and mighty glad to be with you once more. During our sojourn in France we—the numerous automobile men in my company—wondered why Reilly did not show up. Many books and magazines came our way but not once did Reilly come to us. Maybe the dealers hated to part with him and kept him on file instead of using the one-cent-stamp method to put him in A. E. F.

You may be interested to hear another appreciation of the American soldier. My company, a heavy mobile ordnance repairshop, arrived at the front with no transportation and none in sight but very necessary for existence and comfort. With their usual promptness and confidence, a small detail of expert automobile repairmen went to a salvage dump and in less than one day had resurrected from the dead and disabled junk one car and two trucks that gave us good service for the six weeks that we were at the front. And this with the ordinary toolbox equipment only.

These men, expert machinists and mechanics, did stunts like this all over France. If an emergency had to be met I would rather have a good brainy American bunch than the best shop and its men I saw over there. Among the odd jobs they did that were not in their regular line, showing great versatility, were the following: Wiring barracks, mounting machine tools, lining shafting, laying bricks and cement, blacksmithing, pipe fitting, all kinds of wood-work, and even shoveling coal.

When the company was demobilized and scattered over twenty-odd states, not a man took advantage of the department's offer to retain them in the service while getting a job. Confidence! Yes, but backed by the spirit that lands!

We found the French roads were generally worn down to the foundations, but they continued to give good service, showing their excellent construction. At one place I saw a battery of twelve American steam road rollers, and I found

## "TURN TO THE RIGHT"

By C. H. Stanton Massey\*

Did you ever drive through the country—  
Out by Barnesville, I mean,  
In the springtime when the air was sweet  
And everything was green?  
Perhaps you came to the cross-roads,  
Where the hand once painted white  
Is nailed to the old covered bridge  
And tells you to "Turn to the right."  
And, Mister, when you came to that sign,  
I know you turned to the right.  
If you hadn't you'd have wrecked the car,  
And you wouldn't be here to-night.  
Perhaps as you were riding along  
You remembered your childhood days,  
When as a barefoot boy you roamed  
The green fields and the broad highways.  
Well, I did the same as you did  
A great many years ago.  
A barefoot boy, I read that sign,  
But then I didn't know.  
But, Gee! I've wished many times since  
That I'd done just what it said.  
If I had, things would be different now  
And I'd never have to hang my head.  
So, Mister, you better take this warning  
From one who has lost Life's fight.  
When the time comes, if you're in doubt,  
Take a tip, boss, and "turn to the right."

\*Foss-Hughes Co., Philadelphia.

## Your Association?

Is there a dealers or trade association in your town?

Is it successful?

Was it always successful?

How have you made it successful?

If it is not successful would you like to have it made successful?

Maybe you have ideas on how associations should and should not be operated.

Write a letter for publication on this page where the other dealers may learn what has been done—or NOT done—in your town.

The association movement is going better to-day than ever. Is it so in YOUR town?

some fine resurfaced roads thereabouts. The German roads, back of their lines, were in very good shape. We know how they did it. It was a pleasure to come across American M. P.'s in the small German villages and to note what good traffic cops they made.

I cannot speak highly of our railroad experiences, as they produced our worst nightmare. In this line the redeeming features were the efforts of the R.T.O.'s to get things done properly and the hard work put in by the doughboy engineers.

The many things of value that the war has brought out are receiving much attention right now to help us in the future. This is very interesting work, but I look forward to rejoining the automobile world at some time in the future.

If you hear of anything that looks good let me know.—O. P. Tyler, Captain of Ordnance, War Department, Office of the Chief of Ordnance, Training Section, Washington, D. C.

(Before going to France, Tyler managed a factory branch in the East and was active in trade affairs in a city of 150,000, having all around experience in the automobile business. He is a graduate engineer and about 34.—Ed.)



## The Tax on Tires

Editor Motor World: As we understand the new tax on tires, 5 per cent is to be added by the manufacturer to the exact billing price of tires. We note that the tire factories are adding 5 per cent before the cash discount of 5 per cent is figured off the cost of the tire. In other words, our annual tire business is approximately \$300,000. If the manufacturer adds the 5 per cent to the invoice without figuring the cash discount, our annual tax will be \$15,000. If, on the other hand, the 5 per cent is added to the exact cost price to us, our tax would be \$14,250, or \$750 less.

It would appear to us that inasmuch as almost every dealer and jobber takes his 5 per cent cash discount on tires, the tax should be added to the exact cost of the tire after the cash discount is deducted. We do not know the exact volume of tire business done by all of the factories annually. However, as it runs into a very large figure, the difference in figuring the 5 per cent tax would amount to a considerable sum. We do not know whether or not this point has ever been thrashed out, but we think it is the Government's intent that the 5 per cent is to be added to the exact flat cost.

If you care to publish an article in your paper pertaining to this matter, we are sure that it will be of interest to all jobbers and dealers whose tire business runs into volume.—United Auto Supply Co., W. V. Smith, San Francisco.

## Announcing a Vulcanizing Shop

Editor Motor World: Please suggest some copy for a circular letter to announce the opening of a complete vulcanizing plant. I have the best equipment possible to buy and use a new system of retreading.

I also intend to push the sale of tire seconds that are selected stock and retreads built from the tires that I can purchase or trade. My materials will be of the best and all work guaranteed. Would also like something to be used as a follow-up to the first letter.—E. S. Curtice, Meridian, Miss.

Answer.—Here is a first letter and a follow-up letter:


Dear Sir:

Here is something that you have been waiting for—a complete up-to-date vulcanizing shop where you will get prompt, courteous attention and the best quality work that can be turned out. We have spared no expense in the matter of equipment designed to improve the quality of the work and to get it through on time, and we will guarantee all work.

Bring in some casings and tubes and let us demonstrate what a good, quick, reasonable job we can do.

Have those treads vulcanized before the fabric goes to pieces. Tires cost money, and you should get your money's worth out of them.

We invite inspection of our stock of selected seconds and retreads. Retreads



**Winton Six** **FEDERAL**

Automobiles Trucks

**GARAGE - REPAIRS**

**CONSOLIDATED MOTORS CO.**

THEY COMPLETE AUTOMOBILE ESTABLISHMENTS IN TEXAS

300-610 Rusk Avenue      Phone Preston 3978  
315 Beatty Building      Phone Preston 1940

## Advertising from the Skies

Editor Motor World: Perhaps the first instance in which commercial advertising was done with the aid of aeroplanes was a campaign conducted by our Houston, Tex., distributors, the Consolidated Motors Co., when 15,000 handbills like the enclosed copy were dropped from six De Havilland planes whose services were secured through the courtesy of Col. Brant, Commanding Officer of Ellington Field, Tex.—General Tire & Rubber Co., Akron, Ohio.

will not give quite the mileage of new tires, but considering the cost, they will stand you a surprisingly small amount per mile.

We extend a cordial invitation to you to look over our shop and have a chat with us. This will not obligate you in the least, and we do want you to know that we are in position to serve you.

Yours very truly,

Dear Sir:

Since the announcement of our open-

ing which was sent you some time ago, we have been making rapid strides. Our business is building up and our customers are highly pleased with the tires that we have repaired for them.

Our shop is equipped with every modern time and labor-saving device that will insure good work at reasonable prices.

May we not have the opportunity of trying to please you also? How about throwing that old casing in the back of the car and leaving it with us a couple of days. You will be surprised at the result, and you will find our charges very reasonable.

Many cars in town are now using our selected seconds and retreads and, considering the remarkably low prices, customers express more than satisfaction with them.

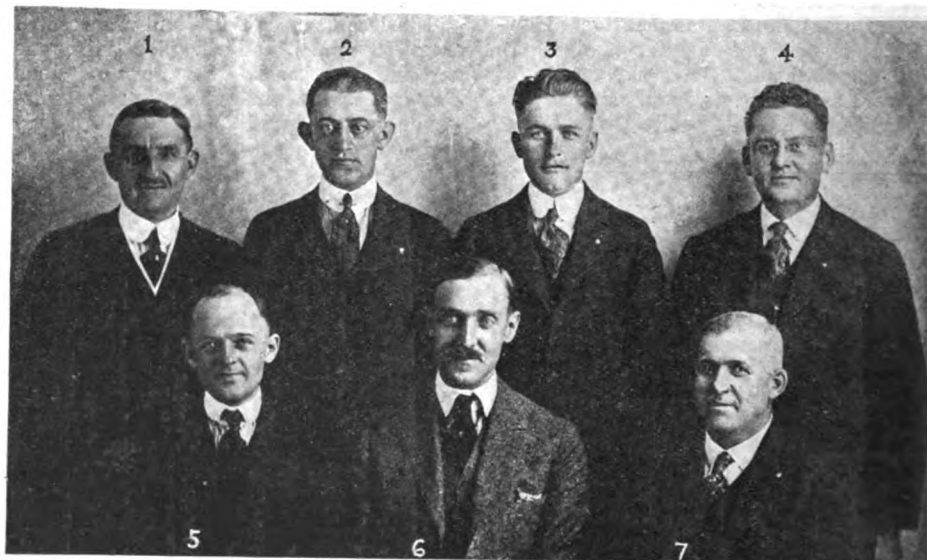
How soon shall we have the pleasure of a visit?

Yours very truly,

## Waterloo Association Grows

WATERLOO, IOWA, May 10—The Automobile Dealers' Association of Waterloo recently held one of the most successful automobile trade meetings ever held in this section. As guests, most of the dealers in Black Hawk County were present, as well as officers of the newly formed Iowa Motor Trades Bureau. There is more enthusiasm for organization in this section than there has been since the beginning of the industry, and it is felt that it is needed much more now than ever before, due to legislation on road bills, lien laws and automobile license laws.

## These Men Made Houston Meeting a Success



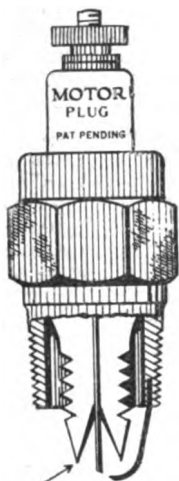
THESE are the State and national officials of the National Automobile Dealers' Association whose presence, addresses and work contributed greatly to the success of the Texas State Automobile Dealers' Association meeting at Houston. 1—F. W. A. Vesper of St. Louis, president of the N. A. D. A.; 2—C. E. Faulhaber of Little Rock, Ark., and 3—G. F. G. Smart, Pine Bluff, Ark., state N. A. D. A. representatives from Arkansas; 4—H. L. Robertson, Houston, president of the Texas association and a member of the board of directors of the N. A. D. A. Robertson was elected 1919 president of the Texas association. 5—T. L. Huber, Lake Charles, La., N. A. D. A. state representative from Louisiana. 6—E. M. Bottom, Tulsa, Okla., N. A. D. A. representative from Oklahoma. 7—M. H. Randall, Oklahoma City, N. A. D. A. representative from Oklahoma.



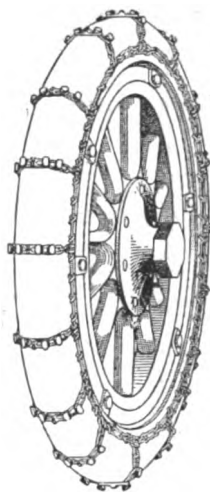
# Automotive Equipment

## MOTOR KING PLUG

This is a spark plug in which the insulator extends well down into the combustion chamber and is maintained at a high heat which is claimed to burn off carbon deposits as fast as they accumulate. The protruding porcelain also forms a petticoat over the central electrode to prevent oil running down onto it. Made in all three sizes and threads. Price \$1.—Motor Spark Plug Co., 91-107 Lafayette Street, Newark, N. J.



Motor King Plug



Loop Head Chain



United Spark Plug



Trouble Link

## UNITED SPARK PLUG

This is a plug with a "Lockt Terminal" feature which prevents the terminal nut from unscrewing. This is accomplished by alternate depressions and ridges in the cable terminal, corresponding to grooves and ridges in the terminal nut. Made in sizes to fit tractors, trucks and passenger cars.—United Mfg. & Distributing Co., Lake Shore Drive and Ohio Street, Chicago.

## LOOP HEAD TIRE CHAINS

These are skid chains for tires consisting of a long chain going around the rim on each side of the tire and cross chains with loop heads at intervals around the tire. The loops are so arranged that any breakage of the cross chains can be replaced by simply hooking the loops into each other. For July, 1920, delivery.—Galesburg Chain Co., Galesburg, Mich.

## THE TROUBLE LINK

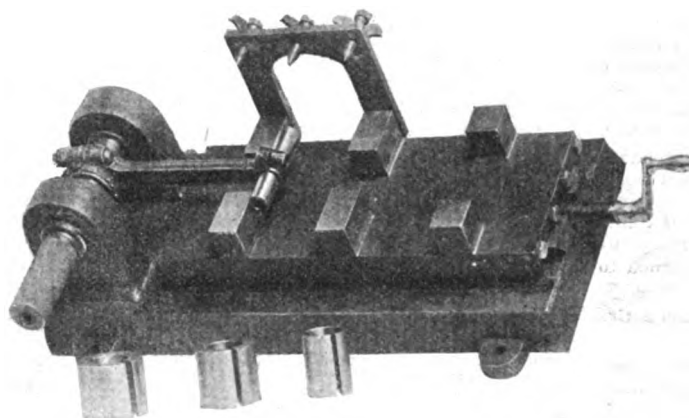
This is a repair link for non-skid chains and is connected to the chain by bending the open arm shut with a hammer or by pressing it in a vise. Put up in small bags containing 24 links, price 40 cents per bag. Fifty of these bags are put into a large bag for dealers and jobbers. The link is made of hardened steel.—C. B. McAllister, Washington, Pa.

## CRAIG-HUNT CYLINDER HEAD \$150

A period out of place made the price of the Craig-Hunt Sixteen Valve cylinder head for Fords appear as \$1.50 in our issue of April 2, whereas this should have been \$150. The cylinder head is made by Craig-Hunt, Inc., Indianapolis.

## SIMPLICITY POWER PLANT FOR FORDS

This is an outfit for turning a Ford car into a power plant by setting the rear axle on a frame, removing the two wheels and replacing them with two demountable 35 x 2 sprockets, these being connected to the power shaft by means of chains. The plant will develop 8 to 10 hp.—Simplicity Wheel Co., Grand Rapids, Mich.



Universal Connecting Rod Alignment Gage

## UNIVERSAL CONNECTING-ROD ALIGNMENT GAGE

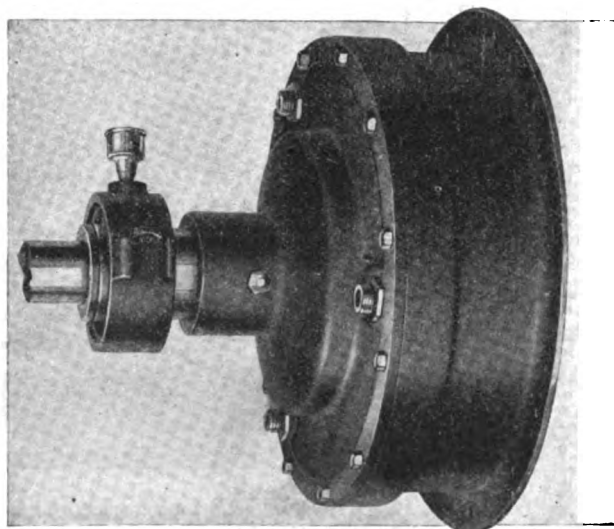
This is an alignment gage for testing the alignment of the piston pin and the truth of the piston crossbore. The big end of the connecting rod is clamped to one of the arbors which is the same size as the crankshaft and another arbor the size of the piston pin is clamped at the top. The movable table has six test blocks, each having three sides true. It is moved with the handle till the upper arbor rests on the top of the blocks to test for twist and then to the side of the blocks to test for parallelism. Equipment includes three bushings. Price \$65.—Campbell & Wochner Co., 1613-1615 Third Avenue, Rock Island, Ill.

## RUBRBACK & KHAKIBACK TUBE PATCHES

Rubrback tube patch is a gasoline patch for repairing punctures and blowouts and it expands with the tire, preventing a tendency of pulling loose when the tire is inflated. Khakiback is made from the same character and quality of material, excepting that it is reinforced by a covering of khaki cloth. This is intended for use where a non-stretchable repair is necessary. Packed in screw-top containers, two sizes. Each outfit contains sufficient cement and emery cloth for making numerous repairs.—North Western Chemical Co., Marietta, Ohio.

## HILLIARD FRICTION CLUTCH

This is a friction clutch for line shafts and may be operated safely up to a rim speed of 5000 ft. per min. A spiral thread movement gives enormous pressure, easy starting, automatic take-up for wear, and high speed capacity. By means of this clutch individual drive and control of machinery is possible, and countershafts may be eliminated. Sizes run from 6 in. to 20 in., the horsepower ranging from 2 to 48. Prices range from \$23 to \$180.—Hilliard Clutch & Machinery Co., Elmira, N. Y.



Hilliard Friction Clutch



# The RETAIL NEWS

## MIDDLEWEST

Edward Seery and Theodore Reverman have opened a Gates Half-Sole service station in Toledo, and will cover surrounding territory.

White Motor Sales Co., Toledo, conducted by Leo and Albert Ries, will move May 1 into larger quarters. The same men conduct the Stewart Products service station and that business will also be moved to the new quarters.

Autocraft Tire & Supply Co., Jackson, Mich., has just opened another establishment in Jackson. This company was organized 5 years ago by Hengesbaugh Bros. The company handles a line of tires and accessories.

Carlville (Ill.) Motor & Implement Co. has been organized, composed of H. W. Woodmansee, W. A. Craggs, Alex Crawford and J. E. Borman. A lot has been purchased on North Broad Street and a modern garage will be erected to cost \$25,000. Cars and trucks will be distributed and the firm will do a general storage and repair business.

Morris-Adler Motor Car Co., Quincy, Ill., has opened a branch at Maywood, Adams County. W. R. Kelly has been placed in charge. From time to time, similar branches in the western Illinois and eastern Missouri territory will be opened.

William Hamilton, Rock Island, Ill., and C. W. Nash, late of Des Moines, have formed a partnership and opened a garage at 1725 Fourth Avenue, Rock Island, to be known as the Auto Shop. Accessories will be handled.

C. W. Miller, Decatur, Ill., has purchased the fixtures, vulcanizing plant and oil business of the Bittel-Leftwich Co., 241 West Main Street. Miller was formerly of Sullivan, Ill. H. E. Chandler, who has been manager of the Decatur branch, has returned to Springfield.

Ray D. Fern, Peoria, Ill., has opened a tire repairshop at 428 Liberty Street.

Fred Armstrong, Decatur, Ill., has opened a battery service station at 237 South Park Street.

H. H. Towne, Rockford, Ill., has purchased the stock of the S. M. Jacobs motor car accessory store at Janesville, Wis., known as the Rink garage, and will move the business to Rockford, consolidating it with the Central Auto Co.

William F. Streit, 459 East Water Street, Milwaukee, has been appointed distributor of the Highway trailer in Wisconsin territory. He is opening offices, display room and service station at 189 Wisconsin Street.

J. A. Strimple, Janesville, Wis., has acquired the public garage and repairshop building at East Milwaukee and Division streets, now occupied by J. A. Drummond.

Mertz Tire Shop, 6209 Greenfield Avenue, West Allis, Wis., has been established by Otto L. Mertz as a general motor car supply and accessory house, specializing in tire sales and service.

B. L. Van Lente, Racine, Wis., who recently acquired the Ford franchise at Two Rivers, Wis., opened permanent headquarters at 1518 Washington Street on May 5. The business will be conducted under the style of Van Lente Motor Sales.

A. Langermann, Superior, Wis., Dort and

Velle dealer, has opened a garage, sales and service station under the name Allouez Garage, in the East End of Superior, which heretofore has had no establishment of this kind.

F. Warren Coon, Edgerton, Wis., has been appointed state distributor in Minnesota of the Highway trailer and has gone to Minneapolis to open headquarters.

## COAST

Graham & Sons, Coquille, Ore., will build 50 x 100, concrete, one-story garage and salesroom.

P. N. Shown, Fossil, Ore., will build one-story, fireproof, concrete garage, to cost \$10,000.

Evergreen Tire & Tube Co., Lewiston, Idaho, will occupy a new brick building, to be 50 x 125, two stories.

Parks Highway Garage, Bonners Ferry, Idaho, will build a two-story brick garage and salesroom, 50 x 70, costing \$11,000.

Pioneer Auto Co., Seattle, will build a one-story concrete salesroom and garage at Melrose and Pine streets to be 105 x 50 and cost \$11,000.

J. Berkman & Co., Seattle, will build a one-story garage and salesroom, 64 x 122, at 1010 East Madison Street. A large machine shop and tire shop will be installed.

Road Builders Equipment Co., Portland, has secured the agency in the states of Oregon and Washington for Menominee trucks.

Ford Sales & Service Co., Oroville, Wash., will erect a one-story, 50 x 130, concrete and tile garage and salesroom.

Adolph Eberharter, 903 Seaboard Bldg., Seattle, will construct a two-story garage and sales building at 503 Westlake Avenue North. Structure will be of concrete, 108 x 60, equipped with tire shop, machine shop, accessory room and electric elevator.

Daniel Buckley, Cobb Bldg., Seattle, will erect a one-story masonry garage, 100 x 60, to cost \$10,000.

Western Motors Co., Tacoma, has been incorporated for \$10,000 by Robert C. Field and Louis W. Ross.

G. G. Gerber, Portland, radiator and fender expert, will construct a new building, 100 x 100, costing about \$18,000.

Stanley Griffiths, 502 Burke Bldg., Seattle, will build a two-story, 108 x 120, brick garage at 3rd and Virginia streets, to cost \$20,000.

Cook & Gilt, Portland, will occupy new four-story building, 75 x 112, of reinforced concrete, at 10th and Burnside streets.

Hermiston Auto Co., Hermiston, Ore., will build reinforced concrete salesroom, to be two stories, 75 x 80, costing \$10,000.

Rodhain & Vollum Auto Co., Portland, has taken the agency for the Acme truck for the state of Oregon.

Wentworth & Irwin, Portland, G.M.C. distributors, have taken long-time lease on a two-story building on Second and Taylor streets, which will be completely remodeled and overhauled.

New Method Tire Shop, Seattle, C. J. Anderson owner, has taken agency for the Western Variable Tread Retreading machine.

## SOUTHWEST

Cronacher & Triesch, dealers in Dodge Brothers cars at Ft. Smith, Arkansas, are remodeling their building by adding a new showroom.

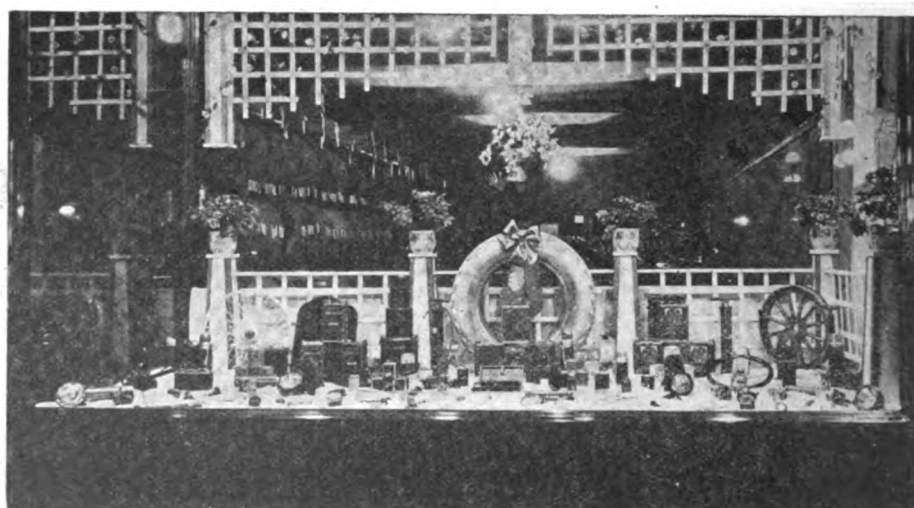
Mendenhall Motor Co., Ford dealer, St. Louis, has purchased the two-story building at 2315-2321 Locust Street, which it has occupied for the last 2 years. The structure occupies a lot 100 x 150.

Harry H. Kralesman has acquired the Used Car Exchange Co., St. Louis, which has been a separate department of the Packard-Missouri Motor Car Co., for the sale of Packard and other used cars and trucks.

Sterling Supply & Service Co., St. Louis, has been appointed city distributor of the I.H.C. truck.

Crow-Burlingame Auto Co., with offices and salesroom at 215-17-19-23 West Fourth Street, Little Rock, Ark., has been organized with a capital stock of \$100,000. Officers are: W. R. Crow, president; Ed Rackard, vice-president; J. G. Burlingame, secretary, and Whitney Harb, treasurer. The firm will conduct an accessory and garage business.

Southern Garage, 713 Spring Street, is the latest addition to the automobile industry in Little Rock, Ark. It is operated by E. H. Bowers, D. C. Dungan and H. R. Kidd.



PERL W. DEVENDORF took advantage of the Watertown (N. Y.) show and dressed his window like this. The picture was taken at night and gives a good idea of the excellent lighting scheme



G. D. Eason has opened a tire and accessory business in North Little Rock, Ark. The firm is known as the Auto Supply Co.

Robert White and Ed Staples have organized the S. & W. Service Co., with headquarters at 1204 Main Street, Little Rock, Ark. The firm will have a tire and accessory business.

#### NORTHWEST

Cadillac Sales Co., Davenport, has been formed to handle the Cadillac in that territory and has opened a salesroom at 409 Harrison Street.

W. F. Hegeman, St. Paul, formerly with the Hudson and Cadillac agencies, has been made salesmanager for the Milton Rosen Tire Co.

The Hallday Farm Light Co., Hallday, N. D., has been formed by John Nordahl, Fred. Hart and P. J. Forward to handle farm lighting in the district.

Ed. Lambert, Oskaloosa, Iowa, has opened a tire shop at 118 North Market.

Day-Sayre Co., Des Moines, has opened a salesroom at 544 Sixth Avenue to handle Luthy batteries.

Warsaw-Markham Co. has opened a sales agency at 611 Cherry Street, Des Moines, and will handle Federal trucks, Wheat tractors and the Curtis trailers.

Des Moines Exide Battery and Supply Co. has been incorporated and will build a structure at Thirteenth and Grand Avenue, 66 x 84 ft. Art. Walker will be manager.

#### NEW SANFORD DEALERS

C. L. Kerr.....Geneva  
H. H. Cornick.....Binghamton  
James Pritchard & Sons.....Ithaca  
William Penn Auto Co.....Altoona

#### NEW GARAGES

Truck Service Co. (100 x 132)....Des Moines  
Perfection Sales Co.....Davenport  
Wood & Moore (\$32,000).....Oelwein, Iowa  
Oleary Auto Co (80 x 150)....Iowa City, Iowa  
Perkins & Glover.....Bondurant, Iowa  
Teshke & Conger.....Eldora, Iowa  
Davis & Engigritsen (addition 32 x 130)

Hawarden, Iowa  
Fredrick & Stansell.....New Virginia, Iowa  
Elliott & Howe.....Waterloo, Iowa  
Hawkeye Tire Co.....Dubuque, Iowa  
Gus Gunderson.....Elgin, Iowa  
C. J. Highland.....Iowa Falls, Iowa  
Odea Auto Co.....Clarion, Iowa  
Fleming Bailey.....Cedar Falls, Iowa  
Luhn & Pieters.....Burlington, Wis.  
Walter Miner Welding Works,

Marshfield, Wis.  
Schroeder Bros (30 x 60).....Milwaukee  
Edward & William Beltz.....Lomira, Wis.  
Allouez Garage....East End, Superior, Wis.  
West Salem Auto Co. (50 x 130),

West Salem, Wis.  
W. J. Stollenwerk (30 x 120),  
St. Anna, Sheboygan Co., Wisconsin  
Merz Bros. (repairs).....Berlin, Wis.  
Sweet & George.....Berlin, Wis.  
Central Garage.....Akron  
Gildner Bros.....Rock Falls, Iowa  
Schermann & Kay.....Farley, Iowa  
Van Horn Bros.....Rodman, Iowa  
Shaw Garage .....Traer, Iowa  
Auto Supply Co.....Estherville, Iowa  
The Lisle Co .....Clarinda, Iowa  
Wm. Heisterkamp (\$20,000, 75x100),

Breda, Iowa  
Gaby and Eckert .....Northwood, Iowa  
O. B. Burrichter .....Monticello, Iowa  
G. V. Metcalf (addition).....Sibley, Iowa



*This picture is typical of the farm implement tractor distributor establishments in Los Angeles. Tractors and other farm equipment are displayed on the street or sidewalk in the usual "country town" style*

Siehl and Horton.....Sibley, Iowa  
Goff and Roberts Garage....Knoxville, Iowa  
Buick Garage .....Forest City, Iowa  
Auto Inn (addition).....Whitemore, Iowa  
E. H. Trewett .....Dinkey, Iowa  
George Schuler .....Griswold, Iowa  
Charles Selling .....Boone, Iowa  
Exide Battery Station.....Atlantic, Iowa  
Mass Brothers.....Davenport, Iowa  
Willard Storage Battery Station.Tama, Iowa  
Elmer Schneider .....LeMars, Iowa  
Hutchison & Short.....Greenfield, Iowa  
A. C. Rohde, 50 x 148.....Sheldon, Iowa  
Burd Auto Co. (\$18,000).....Waterloo, Iowa  
Moser Auto Co. (44x132).Dallas Center, Iowa  
Bulechek & Corbett.....Cedar Rapids, Iowa  
C. W. DeLong.....Colfax, Iowa  
Baraboo Auto & Supply Co...Baraboo, Wis.  
Buick Garage Co. (50 x 160).....Kenosha, Wis.  
H. J. Dunham & Son.....Wyocena, Wis.  
Elmer E. Tuttle (44x70).....Antigo, Wis.  
Raab-Thieman Co. (80x100).....Sheboygan, Wis.  
Kenosha Motor Sales Co. (55x127),

Kenosha, Wis.  
Smart & Phillips (74x165).....Madison, Wis.  
R. E. Kamm (add.).....Ashland, Wis.  
Paul Welsch (30x90).....Mazomanie, Wis.

#### NEW BEEMAN AGENCIES

The Beeman Garden Tractor Company of Minneapolis, Minn., has recently closed jobbing contracts with the following: Carolinas Beeman Garden Tractor Co., N. & S., Carolina; R. R. Ridgeway, Western Kentucky; Pool Tractor Co., Southern Ohio; Garden Tractor Co., Louisiana and Southern Mississippi; Beeman Garden Tractor Sales Co., Tennessee; Iowa Beeman Garden Tractor Co., Iowa; Chester G. Caetsch, & A. W. Sergeant Co., Western New York; Sharon Motor Co.,

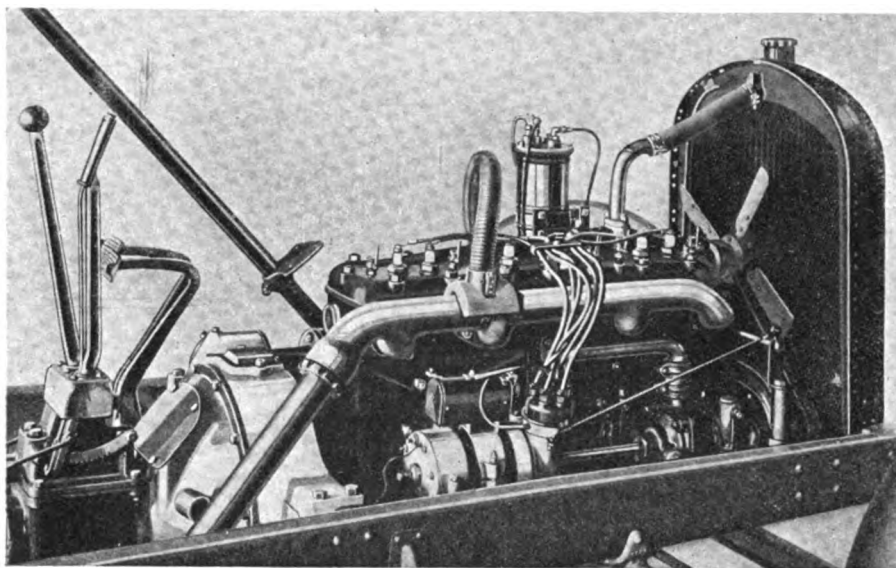
Northwestern Pennsylvania; John Holahan, parts of Illinois; Automotive Products Co., Australia, New Zealand, Philippine Islands, Hawaii and Japan.

#### Staff & Eckhouse in New York

NEW YORK, May 10—Staff & Eckhouse, manufacturers' representatives, have opened a New York office at 1834 Broadway, in charge of George E. La Vietes. The company, which began operation some months ago, now has world distribution for Beardsley never-slip valve lifters and grinders; Simplex ball thrust and roller bearings for Fords and Chevrolets; Hyway oil-less timers and oil-less front springs for Fords; W. & C. double-arm cantilever shock absorbers for Fords, pistons for Fords, and auxiliary radius rods for Fords.

The company has established connections in several cities. Charles E. Scott, formerly of the Spencer-Carroll Co., Dallas, and Campbell Wood, formerly a Red Seal battery man in Texas, are handling the lines out of Dallas as Campbell Wood & Co.; Vaughn E. Lipe, formerly with Chanslor & Lyon, San Francisco, and the Automobile Supply Co., Chicago, is handling the lines with an office in San Francisco; A. H. Fraser, a specialty man, has the representation in Toronto, Winnipeg and Vancouver. Headquarters are maintained at 616 Michigan Avenue, Chicago, where both the partners, J. Wadsworth Staff and Walter Eckhouse, are located.





*Exhaust side of the Sayers-Continental engine, showing mounting of Delco equipment*

## Sayers Improved

*To Be Marketed in a  
Much Larger Way*

One Model With Continental Unit  
Power Plant, Borg & Beck  
Clutch and Hotchkiss  
Drive

**T**HE Sayers six, which has been produced in a very limited way for the past few years, is now to be put through in much larger quantity by the Sayers & Scoville Co., Cincinnati, Ohio. Previously, this company, which is an old carriage and wagon company, had devoted itself to turning out ambulances, hearses, service cars and other public service vehicles.

For the present only one style of body will be furnished, this a 5-passenger touring with long graceful streamline and center cowl. Plenty of room is provided in the tonneau and the instruments and switches are mounted on a panel in the instrument board within easy reach of the driver's seat.

### The Power Plant

Clutch, gearset and engine are in a unit. The engine is a Continental Red Seal, 6 cylinders,  $3\frac{1}{4} \times 4\frac{1}{2}$  in., the cylinders being cast in block and with a pressed steel oil pan. A Zenith horizontal type carbureter is mounted directly on the cylinder block and is fed by a Stewart vacuum tank from a large gasoline tank carried at the rear. Cooling water is circulated by a centrifugal pump through a high honeycomb radiator. A 16-in. fan revolves on ball bearings.

The clutch is a Borg & Beck dry-disk type and the gearset is selective sliding, providing three speeds forward and one reverse. The gears and shafts are nickel

steel and the shafts are mounted on ball bearings.

A Hotchkiss form of drive is used with double universal joints, which are completely enclosed. The torque is taken through the springs. The axle is floating with spiral bevel differential. The housing is pressed steel, bridged type, and the gear ratio is 4.75:1 on high gear. The wheels are mounted on roller bearings. Two sets of brakes operate on the rear wheels, one set being contracting and the other expanding.

The front axle is an I-beam drop forging and the front wheels are also mounted on roller bearings. The springs are graded to insure easy riding, those in the front being  $38 \times 2$  in. and the rear  $5\frac{1}{2} \times 2$  in. Both sets are semi-elliptic, the rear being underslung. Artillery-type hickory wheels are fitted with demountable rims and 32 x 4-in. tires. The wheelbase is 118 in.

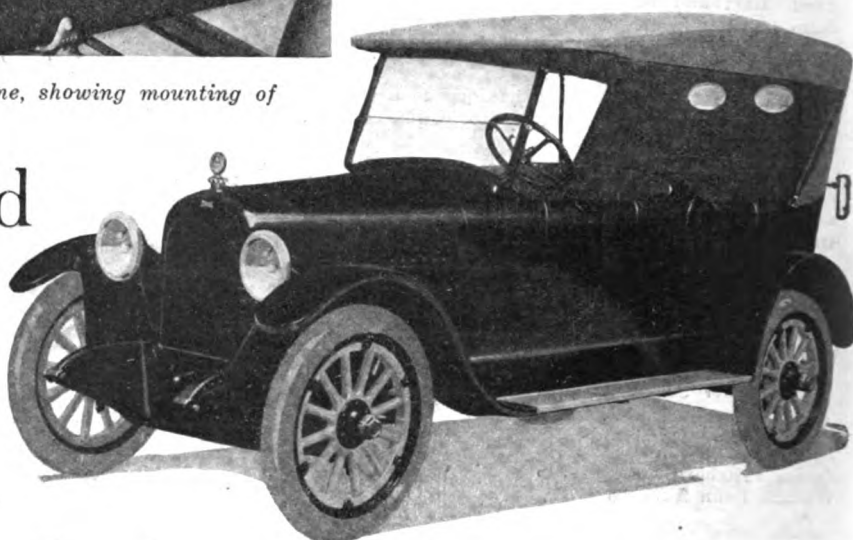
### Starting, Lighting and Ignition

A Delco two-unit system provides for the starting, lighting and ignition, and all wires are well insulated and easy of access. The Willard storage battery is stored under the front seat.

The upholstery is in genuine leather in the cushions and backs, this being long

### Salient Features of the Sayers Six

Engine—Continental, 6 cylinders  $3\frac{1}{4} \times 4\frac{1}{2}$  in.  
Body—5-pass. touring.  
Clutch—Borg & Beck.  
Weight—2700 lb.  
Starting, Lighting and Ignition—Delco.  
Carbureter—Zenith.  
Tires—32 x 4 in.  
Rims—Demountable.  
Wheelbase—118 in.  
Upholstery—Leather.  
Color—Black chassis, dark blue body.  
Rear Axle—Floating.



*The new Sayers touring model, which has a refined streamline body and center cowl*

French plaited and supported with deep soft springs. The chassis is black and the body a dark shade of ultramarine blue.

### K. C. Dealers Mix in Civic Affairs

**KANSAS CITY, May 2.**—The Kansas City Motor Car Dealers' Association, having determined (responsive to the spirit that is pervading the dealers generally) that it should engage more actively in civic affairs, proceeded so to engage. It jumped into the discussion on traffic regulations, succeeded in holding up temporarily a drastic rule of the police commissioners and a proposed city ordinance quite as drastic, and secured a promise that motor car dealers, as experts on traffic, would be consulted when traffic rules were to be made.

The Motor Car Dealers' Association entered heartily into the project to organize a Good Roads Association of Greater Kansas City, and the dealers' representative on the good roads organization, Estel Scott, was elected chairman of the board of directors of the new body. R. C. Greenlease, president of the dealers' association, was a delegate to the Good Roads Association from the City Club, and he was elected to membership on the board of directors, which has seven members.



# Stealing Another Man's Stuff

**An Insurance Man  
Wrote This:**

DEAR SIR:

*You  
Being one of  
New York's  
Men of Affairs,  
Presumably with  
An assured income,  
Might be interested  
In the UNUSUAL,  
Which in this case  
Is an  
Accident policy for  
\$40,000 for  
\$35 a year.  
For further  
Details I shall  
Call to-morrow  
And ask for  
A few minutes  
Of your valued time.  
Thanking you, I am,  
Very truly yours,*

EDWARD F. WOOD.

**The Automobile Dealer  
Can Use This:**

DEAR SIR:

*You,  
Being one of  
Callawassa's  
Men of Affairs,  
And desirous of  
Having the best,  
Will be interested  
In the Model H  
Sennett car  
Which we are  
Now able to supply  
For Spring  
Touring.  
If you will  
Ask your secretary to  
Send the attached  
Slip, with a date  
Filled in, we  
Shall follow your  
Directions in  
This matter.*

Very truly yours,

At the bottom of the letter from the insurance man is a blue slip, 2 x 5, giving the principal points in the policy. You can give the principal points of your car or attach lightly a return card.

## How to Make Best Use of Colored Crepe Paper

The rough side of crepe paper is the right side—that is, the side which should be uppermost. If you can't tell the rough side by feeling the paper, hold it to the light. The dull finished side is the one you should use.

When tacking crepe paper fold the end over four or five times. That gives enough body to hold and the paper will not tear.

Don't be afraid to stretch crepe paper taut when using it. Usually, a roll can be stretched four or five inches to advantage. If this is done, it will not sag in case of damp weather. It insures neatness for the window—and that is of prime importance.

Don't be afraid to handle crepe paper—it's tough!

To make a "tube"—use a piece of paper 6 in. wide and from 6 to 18 in. short of the distance to be covered. Fold one end of the strip until the two edges come together. Tack this folded end in place. Then fold the other end in the same way and stretch the whole strip until it fits. Then tack down second end. Don't crease the folds.

Always try to take the stretch out of all paper used in a display equally. It will give your window a more finished appearance.

When you want to produce "puffing" effects, cut the paper into third parts and tack it down every few inches, allowing the paper to puff between the tacks.—*The Goodrich.*

## Gramm-Bernstein Develops New 1½-Ton Capacity Truck

THE Gramm-Bernstein Motor Truck Co., Lima, Ohio, has for some time had plans perfected for a new 1½-ton truck, but contracts for Class "B" trucks for the army has tied the factory up until just recently. These contracts have now been completed and the way is being cleared for production on this new model. The outstanding features are an internal-gear-drive rear axle and a combination body which is really three bodies in one, the construction being such that the owner may have a flare-board express body, a high sided body or a tarpaulin covered body with but slight change in the body parts. The chassis price is \$1,895.

A Continental Red Seal 3½ x 5 in. engine is the power plant in this new model, and electric starting and lighting system of Northeast make is stock equipment, but the starter is figured extra. The dry disk clutch and selective sliding gear set are both of Fuller manufacture and are made in a unit with the engine. There are three forward speeds and one reverse, the total gear ratio on high being 7.22:1.

The rear axle is of the internal-gear-drive type, being of Clark manufacture. Propulsion is taken through the springs and driving torque also. The springs are of vanadium alloy and the frame is especially strong and has thick cross members integrally gusseted with two rear diagonal braces to prevent torsional strain and misalignment. Two sets of

brakes, both operating on the rear wheels, are controlled one by the pedal and the other by the hand lever. The steering wheel is at the left and the gear shift lever in the center. The propeller shaft is in two pieces with three universal joints to prevent whip in the long one-piece shaft. The radiator is of Gramm-Bernstein make, being of cast type and cushioned to the frame by springs. The standard wheel base is 138 in. and the tread, both front and rear, 56 in.

### 37% Pennsylvania Farmers Own Cars

PHILADELPHIA, May 10—Thirty-seven per cent of the farmers of this state own motor cars, according to announcement made by the State Department of Agriculture. This is an increase of 14 per cent in the last two years. The actual number of cars owned by farmers in Pennsylvania to date is 81,505.

### Metcalf Forming Truck Associations

PHILADELPHIA, May 10—W. H. Metcalf, secretary of the Motor Truck Association of Philadelphia, who recently went to Lancaster, Pa., especially to form the Lancaster Motor Truck Association, obtaining for it a start of 48 members, now is working with the object of forming similar truck associations in every county in the state. Metcalf, in addition to his duties as secretary of the Motor Truck Association of Philadelphia, is president of the Automobile Accessories Business Association and representative of the Wire Wheel Corporation of America.

A MAN who is naturally irascible and unreasonable hardly ever makes a good and efficient tractor operator. Such men have no patience with mechanical imperfections or troubles and are disposed to fly off the handle upon little or no provocation. A man who, because his silo filler was not working to his satisfaction, jumped on the belt and broke his leg, as actually happened in a case in Wisconsin, is a risky prospect for a tractor sale. In this case the dealer who sold him a tractor now has a lawsuit on his hands because the farmer claims the tractor would not do what was claimed for it.



# Repairshop Shortcuts

*From Motor World Mechanics*

## NO. 2125—STEAM HOOD FOR BATTERY

A steam hood for softening the sealing compound of the battery is connected to the tire vulcanizer or tube plate so that an individual steam generator is not necessary. The hood itself is made of tin cut out the right size to fit the battery and soldered along the seams. A short piece of  $\frac{1}{4}$ -in. pipe is soldered into the top and this is connected to any steam pipe on the vulcanizer. To make the hood fit tightly to the battery and prevent the escape of steam, sections of inner tubes are rolled up and riveted around the inside of the hood where it fits on the battery box.—Fred L. Gray, Jewell, Kan.

## NO. 2126—REMOVING BEARING RACES

Ball or roller bearing races are removed from housings by drilling two  $\frac{3}{8}$ -in. holes opposite each other in the housing and steel pins or punches are inserted in these holes. The pins will bear on the outer race and blows from a hammer on alternate pins will drive the bearings out. The holes are plugged up afterwards.—Georges Grillier, French Machine Shop, Red Bank, N. J.

## NO. 2127—ECONOMICAL GREASE CONTAINER

Grease is economically and conveniently handled by means of an upright pipe, 10 to 13 in. in diameter extending from a tripod support on the first floor through the ceiling and floor to a point about 1 ft. above the second floor. A flange helps to support the weight. The bottom is capped and fitted with a 3-in. gate valve through which the grease is drawn off. Filling is done through the top and the barrel is left there to drain out. The pressure will easily force the grease through the valve.—J. M. Ginter, Jr., Ginter's Garage, Wooster, Ohio.

## NO. 2128—HANDY TROUBLE LAMP

A trouble lamp which will throw light up to the mechanism of the car without shining in the workman's eyes is made from an old headlamp and a block of wood. The lamp standard is heated and bent at right angles. The regular lamp socket is removed and the trouble-lamp cord slipped through the hole and well taped above and below so that the lamp is held upright. The block is 2 x 10 x 8 in. with the lower corners rounded so it

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

will slide along on the floor. The cord goes through a screw eye and is taped on both sides to take the strain of pulling. A wire screen protects the lamp.—F. L. Helmes, Oneonta, N. Y.

## NO. 2129—REMOVING VALVE KEEPERS FROM OAKLAND SIX

Keepers are removed from Oakland Six valve stems by using a slotted bar a little over 1 ft. long,  $\frac{1}{8}$  in. thick and 1 in. wide. The slot is started 5 in. from one end and is  $\frac{3}{4}$  in. wide and 3 in. long. The slot is slipped over the valve stem and the bar pressed down, using one hand and the knee. The keeper is then taken out with a scratch awl.—C. R. Pierson, Hart Motor Car Co., Salineville, Ohio.

## NO. 2130—PISTON-CHUCKING JIG

A self-centering piston jig is made in the form of a cone section with a square lug on the small end, a standard taper shank being turned on the other end. The taper shank fits the headstock of the lathe and any piston placed with the

bottom of the skirt against the conical surface will be automatically brought in center. The square lug goes between the piston bosses and turns the piston around with the headstock.—D. S. M., Motor Inn, Emmetsburg, Ia.

## NO. 2131—PORTABLE TOOL RACK\*

A portable tool rack for shop use is made by nailing four boards together and putting a fifth square one a little below the top to form a recess which may be subdivided into as many compartments as desired. A leather handle is fitted for carrying and the sides are fixed with nails, screws and straps to hold the different service tools that may be needed. A strip of wood under the strap will prevent the tools from sliding all the way through. A convenient size is 18 in. high, 12 in. square at the bottom and 8 in. square at the top.—Rivesville, W. Va.

## NO. 2131—COMBINED T AND CRANK WRENCH

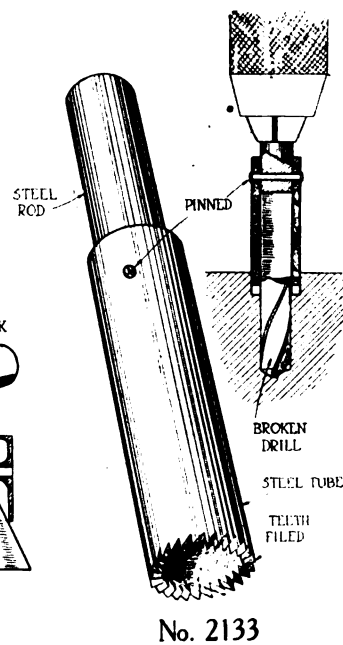
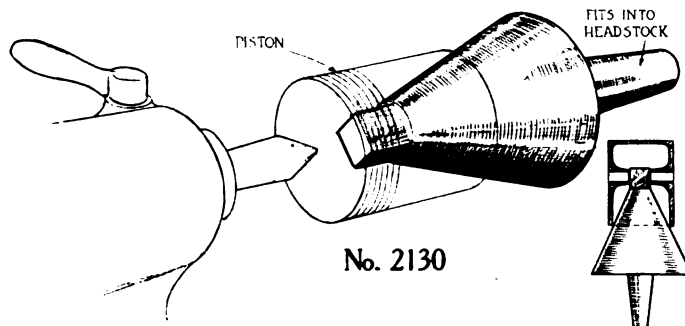
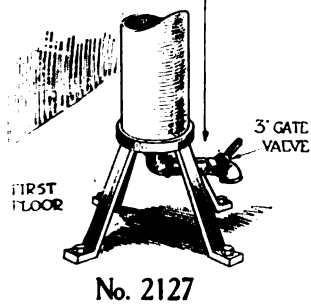
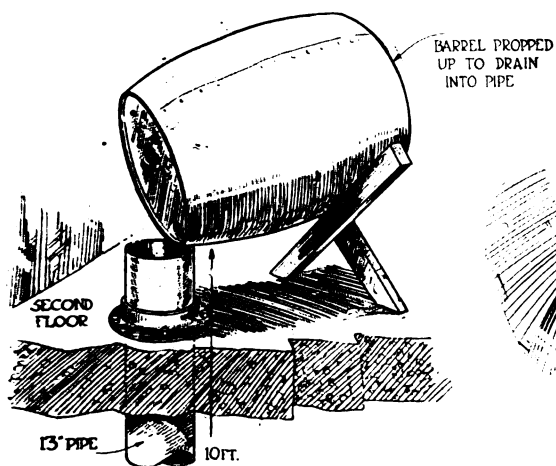
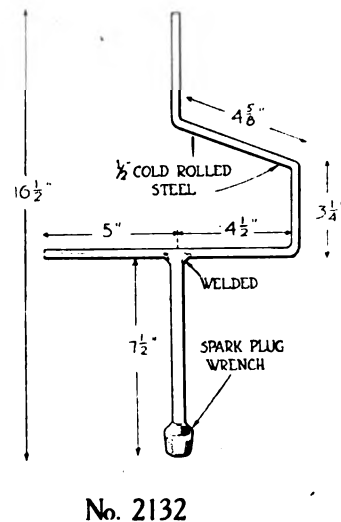
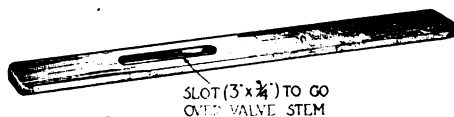
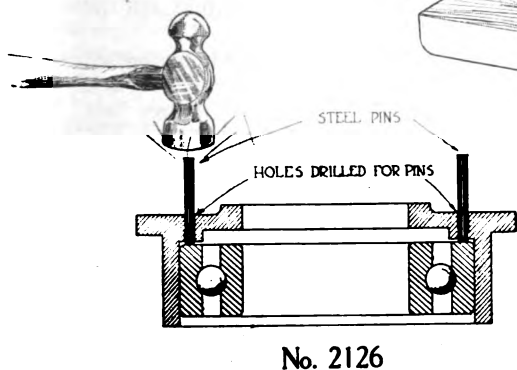
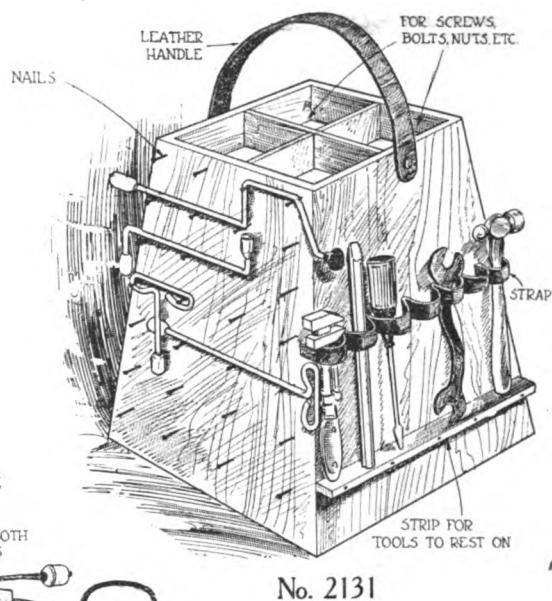
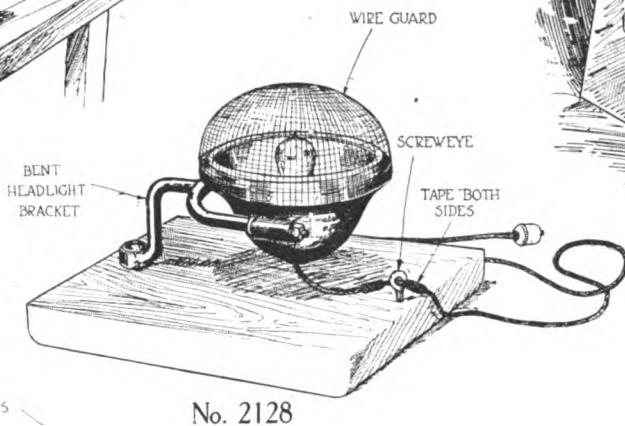
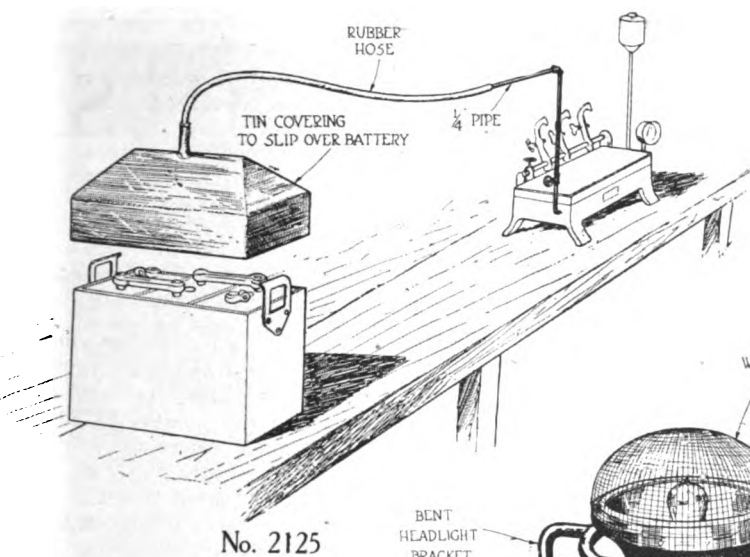
A combination T and crank wrench for Ford connecting-rod bolts is made by straightening out a spark-plug wrench or No. 174-B wrench. It is then cut off  $7\frac{1}{2}$  in. from the socket and a piece of  $\frac{1}{2}$ -in. cold rolled steel welded to the socket piece and bent to the dimensions shown in the illustration.—Fred J. Long, Massillon, Ohio.

## NO. 2133—REMOVING A BROKEN DRILL

A drill which has been broken off flush in a casting can be removed by drilling a larger hole around the outside of the broken drill with a hollow drill. Such a hollow drill is made from a piece of steel tubing, the inside diameter of which is the same as that of the broken drill or a trifle larger. Teeth are cut in the end of this tubing with a triangular file and the end hardened and tempered. It is only necessary to drill to a sufficient depth to catch the broken drill with a pair of pliers. If sufficient body of metal is left, the hole is continued through the same size as the broken drill, otherwise the hole will have to be drilled larger.—Georges Grillier, French Machine Shop, Red Bank, N. J.

\*No Name to This One.—Repairshop Shortcut No. 2131 was sent to us without any name and address, consequently we are unable to forward the dollar to this contributor. If the contributor will send us his name and address we will send the dollar.







# Avoiding Used Car Pitfalls

*A Toronto Man Recently Told This Story at a Trade Convention and It Contains Some Good Ideas*

A GOOD plan and one that will help you to determine the value of the used car offered is to have printed a "taking-in-sheet," and when an owner brings his car to you have your mechanic go over it thoroughly and mark down in detail the actual condition of the whole car.

It is surprising the number of things you can find wrong with a large number of used cars. It is also surprising the effect it has on what kind of a deal you can make when this sheet is put into the owner's hands with the true facts as to the condition of his particular car. Try it out, but not in a fault-finding way. A proper sheet will not let you overlook anything from radiator to tail lamp. Mark each irregularity down, price cost of putting into shape, total his figures and deduct the amount from his asking price.

While it is not always the case, I cannot help express disappointment at the number of owners who hold back telling about the sometimes serious faults in their cars when offering them for sale or exchange. On the other hand, if a dealer has a used car to sell he is classed as a crook by the same people if he does not tell the whole truth about it.

An instance: Owner drives his car to my door to sell it. I look it over and take a ride in it. The car is small, the price is low and it runs pretty well on three cylinders. I am just about to buy it without further inspection when I discover water coming out of the muffler. I question him about it, whereupon he volunteers the information that "in tightening up the manifold he cracked the water-jacket inside." Now had he told me this at the start I would have doubtless bought the car at his price, but the moment I discovered he was "too small" to come out with the truth I told him I would not buy at any price.

Be sure of the true ownership of used cars in these days of "time sales." The dealer who buys a number of used cars or even an occasional one requires to take precaution to see that the party who offers it is the true owner, and, even at that, find out if there is any debt against it. It is hardly

likely that a man in a community trading his used car in on a new one will do so unless it's paid for in full, but watch out for those from whom you buy outright.

I have had "some" experience and expect to pay for my foolishness in neglecting to search records in the registry office before paying for some cars which had lien notes registered against them. I have also bought cars that were not paid for, but as the former seller did not register his lien notes it is up to him to get his money the best way he can. Therefore, search the records when buying, or insist on receiving a bona fide bill of sale from the former owner or concern from whom the car was bought.

I have a little scheme for "tripping up" the smart fellow who

thinks he is going to put one over and sell me his car though not paid for.

When I have decided that I want to buy a certain car I first test it out and then run it into my premises. The car now being in my building, I proceed to pay for it by check, but on the back of the check I print the following condition, with a rubber stamp: "This check is payable at bank upon which it is drawn on presentation of clear bill of sale from former owner. In full payment for car serial number so-and-so, license number so-and-so, of which I am sole owner and against which there is no debt whatsoever."

My opinion is that apart from this first paragraph a man will think twice before he endorses check with such a condition as the latter, even though he could not put his hands on the original bill of sale.

Remember, the car is in my building and if he is trying to work something he cannot change his mind and drive the car away. His position is an awkward one if he



THESE THREE MEN are the new firm of French, Beamer & Wissler, which is going to distribute the Hassler shock absorber in Iowa. They have all been associated with the Herring Motor Co., Des Moines, for eight years—L. L. Wissler as sales manager, J. Z. Beamer as buyer and E. T. French as salesman. They will travel six men and operate at 1723 Grand Avenue, Des Moines



## Officers of Motor Truck Association of Philadelphia



**R. W. WALTON,**  
Treasurer



**THOMAS K. QUIRK**  
President



**J. HARRY SCHUMACKER,**  
Vice-President



**W. H. METCALF,**  
Secretary

cannot prove ownership or take the car away without owning up that it is not paid for in full.

My resolve when I started the used car business was to sell used cars on the level or quit. I have developed a feeling of fearlessness and do not hesitate not to misrepresent cars to sell them. And in order to keep up this standard I offer to refund the money for any car sold by me if it is not absolutely as represented.

Set this standard for the sale of

all used cars and you will see to it that you do not misrepresent them.

In closing this rambling talk I would emphasize three things. Insist on the seller telling you the faults as well as the good qualities about his car. Ask him if he has told you all that he would tell his own brother if selling him his car. See that it is paid for in full. Register your own lien notes and, last but not least, don't allow too much for old "crocks."—P. A. Breakey, Toronto, Ont.

He saw the point and I sold him a car on that basis.—I. A. Murphy, Cedar Rapids, Ia., Cadillac and Moline-Universal.

### **Have You a Mailing List?**

A complete mailing list of all car and tractor owners and prospects for either cars or tractors should be compiled by the automotive dealer, and this should be kept strictly up to date. It is not possible to trust the memory with such things. Some of your best prospects may be forgotten or the time for calling upon a prospect may go by unused unless there is something in the office which will remind the manager or the salesman of the fact. A well developed mailing list is an asset to any automotive business.—Lloyd Edson, Sales Manager, Rude Auto Co., Cedar Rapids, Ia., Ford and Fordson.

### **Keep Careful Records**

Careful records of the sales of all departments of an automotive business should be kept by every dealer. These are invaluable for purposes of comparison and as guides to buying and the conduct of the business. Once each year at least a careful inventory of everything on hand should be taken. The sales records for at least the last two years should be compared to ascertain what are the best selling features in the line and what part of the year brought the largest demand for them. Lloyd Edson, Sales Manager, Rude Auto Co., Cedar Rapids, Ia.

## **Do These Things Make Money in 1919 Make More in 1920**

### **Do You Summon Neighbors?**

When I make a delivery of a tractor I 'phone all the farmers in the neighborhood to be at the customer's farm when I get there. I've had as many as 20 or 30 to see me start a tractor for a neighbor. I find it's mighty good business to do this.—I. A. Murphy, Cedar Rapids, Ia., Cadillac and Moline-Universal.

### **Get the Spirit!**

Every tractor salesman has got to learn to operate a tractor himself, I don't care who that salesman may be, from the big noise down. The salesman, no matter who he is, can't work up any enthusiasm over something he doesn't know anything about. One of my

dealers at first didn't think he ever would care anything about selling tractors. He learned to run one himself and took it out to deliver. It was the first time he had tried it. When he got that into the field and really worked it himself he couldn't get back to town quick enough to telephone for two more machines, saying he was going to hop to it and sell them pronto.—I. A. Murphy, Cedar Rapids, Ia., Cadillac and Moline-Universal.

### **Try This One**

I tell my customers that they are buying service, not so many miles on a gallon of gas. I asked one man who always stopped at the Blackstone when he went to Chicago if he went there because the food was any better or just because the service was worth the price?



## Demand Ahead of Sales In the Nation's Capital

WASHINGTON, May 9—Sales of automobiles would be greatly increased if the factories could deliver in proportion to the demands of the dealers, according to statements made by distributors in Washington. With the exception of the Overland dealer, none of the distributors are receiving a sufficient number of cars to meet demands. Overland has been particularly fortunate and is securing cars in quantities that meet the sales demands.

The Luttrell Co., Packard distributor, has received the first car to-day for many months. Orders for twenty cars are now on the books. Conditions, it was said, are very favorable and a prosperous year is anticipated.

The demand for Fords is greatly in excess of production, although the Ford branch here stated that shipments from the factory are beginning to come in in better quantities than in the past few years. The outlook for the future is said to be very good. Buick and Chandler dealers are considerably behind on shipments and have many orders booked ahead. Sales could be greatly increased if they could get cars. Chandler stated that two or three times as many cars could be disposed of if they could be secured from the factory.

### More Money for Eccolene

DETROIT, May 10—The Eccolene Mfg. Co., maker of Eccolene, has increased its capitalization from \$10,000 to \$500,000 and will push business more aggressively than ever. A big advertising and sales campaign will start soon.

### Sell Motor Cars Plus Safety

(Continued from page 13)

Foley of the Illinois Central Railroad by W. L. Wasson, an automobile dealer of Lincoln, Ill., suggesting that dealers could eliminate many crossing accidents:

"We suggest that there is no better place to begin the school than with the dealer who sells and teaches his new owner of this fact—that he MUST NOT CROSS A RAILROAD WITHOUT SEEING BOTH WAYS, even if he has to get out of the car, and you have on your road in this county two places where this must be done.

"In selling for 16 years (and in that time we have sold about 800 cars) we have so taught purchasers that in no case have we ever had a crossing accident.

"We also teach them about crossing at an angle, where a levee is to be considered, that they must not look back and hold the wheel tight, as they will pull the wheel and go off the levee, as has been done many times, with death ensuing.

"We feel that we have done our part.

"One man you killed on your tracks near Clinton many years ago tried to buy of us, but he could buy at another

place and get a discount and he did and was killed near a railroad track. It would not have happened if we had sold him, for I CAN PUT THE SCARE INTO THEM SO THAT IT WILL NEVER LEAVE THEM ON APPROACHING A RAILROAD."

### Sunday Trade for Little Rock

LITTLE ROCK, May 10—Forty Little Rock dealers in gasoline, automobile accessories, and operators of service cars, who last week received orders to close their establishments on Sundays, met with Prosecuting Attorney George Emerson Friday night. Mr. Emerson said, "let your consciences be your guide as to whether you keep open Sunday or not." The dealers said Saturday that their conscience would direct them to keep open Sunday.

### Erie Dealers Banquet Themselves

ERIE, PA., May 10—More than 100 members of the Erie Automobile Dealers' Association heard Edward S. Jordan, president of the Jordan Motor Car Co., and George M. Graham, sales manager of the Pierce-Arrow Motor Car Co., at the annual meeting of the association last Wednesday night. Jordan spoke on "Salesmanship" and Graham took "Organization and Co-operation" as his topic.

### New Association for Wilmington

WILMINGTON, DEL., May 10—The Wilmington Automobile Association, formed primarily to promote the annual shows, is being replaced by the Wilmington Automobile Trade Association, which is in process of formation. This association will take in not only the car dealers, but accessory dealers as well, each branch is being represented in the officers. A committee on constitution and by-laws is at work, as soon as its report is in shape a meeting will be held for organization.

### K-W Wins Switch Litigation

NEW YORK, May 10—The K-W Ignition Co., Cleveland, has won its suit against the Goodrich-Lenhart Co. for infringement of certain patents on ignition locks. The United States District Court for the Eastern district of Pennsylvania has held that patents Nos. 841, 844 (Burnet), 1,015,300 (Cox) and 1,253,470 (Cox) under which the K-W Ignition lock switches are made are valid and infringed by lock switches made by the Goodrich-Lenhart Co. The latter company has paid certain damages to the K-W company and is allowed to dispose of a comparatively small quantity of lock switches which it now has on hand.

### Transport Truck Plant Going Up

MT. PLEASANT, May 10—Work on the new plant of the Transport Truck Co., has commenced. The buildings will cost \$150,000 and will be ready for operation before the end of the year.

## Means of Des Moines Adds Farm Light Agency

DES MOINES, May 12—Another pioneer Des Moines motor company has gone into the farm-lighting field. George Means, who has been in the motor car field here for many years, has organized the Means Electric Farm Lighting Co., and opened sales offices and service rooms at 412 Locust street. The concern will handle the Universal plant. H. O. Hudson is secretary and treasurer of the new firm and will act as manager. Means is optimistic over the outlook for farm-lighting systems and thinks that if the same efficient methods which the motor car sales organizations have used are put to the farm-lighting business Iowa will be fruitful field. The new company will control the entire state of Iowa from the Des Moines office.

### Emerson Successor Hits the Rocks

NEW YORK, May 10—The Campbell Motor Car Co., which emerged as the result of the reorganization of the Emerson Motors Co., Kingston, N. Y., in September, 1917, has been placed in the hands of a receiver. It is stated that the action is a friendly one, brought about largely through a shortage of ready cash, and that there is a strong probability that the company will be reorganized. In the meantime the receiver is to continue the business. The action to have receivers appointed was brought by Abel L. Smith, who holds 166 1/3 shares of the company's stock. The receivers are Marcus Helfand and E. V. Wilson. It is stated that the company is at present solvent, though President J. A. Campbell admits that debts amounting to some \$60,000 are pressing.

### Wayne to Help Oil Station Men

FORT WAYNE, May 10—The Wayne Oil Tank & Pump Co., has inaugurated a new Consulting and Advisory Service for oil men, in charge of F. A. Bean, Consulting Engineer, to take charge of this work.

There is to be no charge connected with the service of this department. All advice, plans, etc., are to be given gratis.

The function of service includes: Standardization of equipment; economical operation and maintenance of equipment; designing and planning of buildings, ground layout, etc.

### How They Are Buying Cars

BOSTON, May 10—A. H. Sowers, who took over the distribution of the Lexington for New England just before the motor show, and opened his retail sales-rooms on Boylston Street show week, has sold 30 Lexington cars at retail, secured distributors in Worcester, Providence and Springfield, who have each taken 50 cars, making a total of 180 cars ordered in a little more than six weeks. Other dealers also are doing a fine business.



# Organization Better Than Money

*So Says Schlecht, and Applies the Rule in Building Up His Dealer Force*

**T**HERE is coming a time, just when I do not know, but I am convinced that it will not be long as measured by years, when a well ordered, loyal, workable business organization will be better than money in the bank, and to that end I am now working," said Joseph A. Schlecht, president of the Mound City Automobile Co., St. Louis.

Mr. Schlecht had been discussing present and past business when the talk turned to the future. Taxes were the immediate question under discussion when he made this remark. He explained it somewhat by this remark: "There are many things that one can learn from the tax blanks besides the amount he has to pay. One of these things is that the master business men who designed these blanks were strong for business promotion and in their ideas of what was good for business they placed no penalties on promotion. You can go the limit on promotion and not have to pay for it. It is about the only privilege you have."

Then Mr. Schlecht went a bit more into detail in discussing his ideas. "It is the history of business," he said, "that a free buying period is followed by a reaction which weeds out the weak members of the business world. It is a house-cleaning and test that ends in the survival of the fittest."

## Shook Off Undesirables

"A good many motor car distributors learned a lot about their dealers last year when the test came on who would stick, cars or no cars. Some wholesalers were almost repaid for their hardships by shaking off a lot of undesirables. Our house did not have many of these, but I know full well how some weak links in the chain broke."

"Just now, with so much trade to be had, I fear that some wholesalers already are forgetting the lessons of last year and are taking on any one they can get who appears to sell a few cars. In extending our list of dealers I am doing anything but that. I am putting my retail prospects through a harder course of training than ever. I want only the best in each community where I decide to place my lines. I am putting five wholesale travelers in the territory where previously we only had two."

Here Mr. Schlecht digressed to discuss the instructions he gave the last wholesale man he started on the road. After he had explained what he wanted in the way of results, the man said:

"Why, Mr. Schlecht, such results would not pay you."

"Not in the matter of direct business," Mr. Schlecht told him, and then he explained that he expected some of the retail men to sell more cars, but what he was trying to impress upon the sales-

man was that the future merchants should be of a class that are not found every day and that he wanted the salesmen to be sure by every test that the man he selected to join the Mound City chain of dealers was "one who by his methods of doing business belonged."

"The big idea behind my present plans," said Mr. Schlecht, "is this: After the rush of after-war business is over and the matter of selling motor cars settles down to competition, and when customers and money are not as plentiful as they are now, I want a chain of dealers who will keep on hitting the line. I want men who have taken up our line because they were sold to our line and our methods, and not merely sold on the prospect of retailing a few cars."

"I am carrying this idea a bit further by placing heavier advertising contracts

with the papers that cover our trade territory than we ever carried before. I am doing this knowing full well that we do not need this advertising to sell our allotment of cars this summer, but I want to take advantage of the present to get our firm and the names of the cars we are selling before the people."

"Recently, while at the Auburn factory, I told of my plans in this direction and found that the same idea was under consideration there. The day after the discussion, the sales department received almost the same idea through one of the business service bulletins, so I am not setting this forth as a novelty but merely as my opinion, as my idea of applying a theory that appears to have developed in many quarters and daily I see evidences of its being carried into effect."

## Maxwell Producing 200-250 Daily

DETROIT, May 10—The Maxwell Motor Car Corp. is running between 200 and 250 cars daily. Sales are exceeding production of this company by 33 1/3 per cent.

## Coming! Coming! Coming!

# Save Money in Ford Repairing!

## LOWER CHARGES AND MORE PROFIT

*A complete course in Ford repairing will be conducted in the Better Mechanics Department of Motor World. It will show how to*

**OPERATE** with labor-saving methods and machinery. Weeks of time and hundreds of dollars can be saved by the use of modern methods and machinery. Some of this machinery you already have, but many shop operators have found that there are uses for their machinery that they didn't know about. And often the addition of some small tool will make it possible to perform a series of operations in a way that saves time and money. You can't afford to miss this series—and you should preserve it and have it always available for study by your organization. It will put your shop in position to do work at lower prices and more profit.

The series, beginning June 4, will take up first the Ford power plant. The major subjects in order are:

I—Ford Power Plant.  
II—Rear assembly.  
III—Front assembly.

IV—Chassis frame and dash.  
V—Body, top and windshield.  
VI—Steering gear.

The Ford Power Plant chapter will be sub-divided as follows:

1—Removing the engine from the car.  
2—Taking down the engine and transmission.  
3—Testing the crankshaft and re-babbitting the block.  
4—Burning in the bearings.  
5—Re-boring the cylinders.  
6—Aligning connecting rods.  
7—Refacing valve seats and reaming valve-stem guides.  
8—Removing carbon and grinding valves.  
9—Fitting new pistons and piston rings.

10—Overhauling the transmission.  
11—Testing, repairing and overhauling the magneto.  
12—Assembly of engine and transmission.  
13—Testing the engine.  
14—The ignition system.  
15—The Radiator.  
16—Gasoline tank, pipe, strainer, muffler, lamps and equipment.  
17—Replacing the power plant and equipment in the car.

*Coming June 4—Don't Miss the First Story*

**Make Money in 1919**

**Make More in 1920**



## California Makes Drastic Changes in Her Motor Vehicle Laws

*New Measure, Becoming Effective July 1, Makes It a Felony to "Borrow" Cars, Increases Speed Limit and Revises Dealer License Plate Regulations*

LOS ANGELES, CAL., May 3—Several drastic changes are made in the revised motor vehicle laws for California which become effective in July. Representatives of all motor trade industries and owners conferred upon the bill before it was enacted and the new law is believed to provide a number of improvements. The principal new provisions are:

Prohibiting persons under the influence of liquor or habitual users of narcotics from operating motor vehicles.

Increasing the speed limit in daylight on unobstructed portions of highways to 35 m. p. h.

Making it a felony for a person to take a car without the owner's consent and use it with or without the intent to steal.

Requiring new license plates each year. In case of transfer or sale the number must follow the car instead of the owner.

Prohibiting discharge of firearms from motor vehicles.

Restricting the use of headlights.

Requiring all motor vehicles used for commercial purposes to be equipped with windshields and when the body projects more than 12 in. beyond the driver's seat a mirror must be used.

Necessitating various arm signals when turning.

To try and overcome the joy riding "evil" and the driving of cars by intoxicated persons or those addicted to the use of narcotics severe penalties are imposed. A prison sentence of not less than 1 year or more than 5 must be imposed upon the joy rider. There is no alternative of a fine. In case of violation of the section relating to liquor and drugs a fine of from \$500 to \$5000 may be imposed or in lieu thereof imprisonment in the county jail for not less than 6 months nor more than 1 year or in state prison for not less than 1 year nor more than 3.

The new signaling section provides that before turning, stopping or changing the course of a motor vehicle the driver shall give warning by the use of his arm, or where the vehicle is so constructed that arm signals would not be visible, mechanical or electrical warning devices must be used. Arm extended upward indicates turn to the right; pointed horizontally indicates turn to the left and downward indicates slowing down or stopping.

The headlight provision requires that headlights be so arranged, adjusted and constructed when the car is fully loaded that any pair of headlights must produce a light which:

1. When measured on level surface on which the vehicle stands, at distance of 200 ft. directly in front of the car and at some point between the said level surface and a horizontal passing through top of the headlight reflector or lens, is not less than 1200 apparent candlepower.

2. When measured at a point 100 ft. directly in front of the car, and at a height of 50 in. above the level surface on which

the vehicle stands, does not exceed 2400 apparent candlepower; nor shall this value be exceeded at a greater height than 60 in.

3. When measured at a distance of 100 ft. ahead of the car and 7 ft. or more to the left of the axle of same and at a height of 60 in. above the level surface on which the vehicle stands, does not exceed 800 apparent candlepower.

Motor car dealers are required to pay \$10 for the first set of number plates and \$5 for each additional set instead of \$25 for the first set and \$2 for each additional set as at present. The idea is to reduce the number of dealers' plates in use.

The name of the legal owner of a car must appear on the bottom line of the registration certificate. This is new and is to protect the proposed purchaser against misrepresentation of ownership. Application for a transfer of ownership must be signed by both the transferee and the legal owner. Upon transfer, title to the number plate vests in the transferee. Dealers need no longer make application to the department for registration of a used car. He can enter into joint indorsement and make transfer direct by forwarding the certificate thereon to the motor vehicle department.

A feature of the new law to which truck operators already are objecting provides that chartered cities are permitted to vary the maximum weight per inch of widths of tires prescribed by the act. Boards of supervisors may require lighter loads for widths of tires than those prescribed. The penalty is a fine of \$20 for each ton carried in excess of the limitations imposed. Truck operators say they will be put to no end of inconvenience by this regulation because of the variations they may have to meet when making a haul that necessitates passing through several towns each of which may have a different regulation.

### A Transfer Truck Carries the Cars to Their Stalls in This Garage

A long-sought for condition, that of being able to drive a car into a stall without backing and filling, seems to have been realized by the Traylor Motor Garage Co., Allentown, Pa. The cars are driven into the entrance door and on to a transfer truck which has wheels running on tracks, these tracks being crosswise to the car. The transfer truck is operated by an electric motor, and the operator runs the truck with its load opposite to the stall, and the car is driven off the truck.

This all sounds very simple, and it is very simple. The truck was made in the garage and is nothing more than a strong platform with steel beams fitted with flanged wheels. The entire operating mechanism, with a small platform for the operator to stand on, is off to one side of the driveway of the truck. Cur-

rent is taken from three overhead wires by a trolley pole.

A controller similar to the ones used on street cars provides the control. The drive from the motor to the wheel which does the driving is by means of a chain.

The garage is so laid out that there are three rows of stalls and two transfer trucks are sufficient to serve these three rows. It is never necessary to back or turn the steering wheel.

### Saxon Soon Under New Plan

DETROIT, May 12—The Saxon Motor Car Corp. will soon be operating under its new re-organization plan which calls for the issuance of an entire new stock issue to be absorbed by the creditors and the cancellation of all present stock. The proposed plan, as outlined some time ago, was signed by all of the bankers and a majority of the creditors at a meeting in Cleveland, Friday.

### White Leaves Cadillac Company

DETROIT, May 12—D. McCall White, vice-president and assistant general manager of the Cadillac Motor Car Co., has resigned his position with that company. His resignation is to take effect at once. He will not discuss his future plans. His statement, however, that he would remain in the automotive business and that his operations would be very extensive, has given rise to much speculation here as to the possibility of a new automobile company, with Mr. White as the head.

### Would License Car "Watchers"

ST. LOUIS, May 3—The licensing and regulation of watchmen of motor cars parked in public places in St. Louis is provided in a bill introduced at a meeting of the Board of Aldermen by Alderman A. H. Niederluecke. It is forbidden under the bill for any person to act as caretaker of a motor car parked in a public place where parking is permitted free of charge or to enter, handle or touch any part or equipment of, or any property in, a parked motor car unless he has been licensed by the Board of Police Commissioners to serve as a watchman, or unless he is the owner of the motor car or has been authorized in writing by the owner to act as caretaker. Such licensed caretakers must wear uniforms and display badges prescribed by the Police Board.

### Money in Radiator Work

"The motor vehicle industry has grown to such tremendous proportions that it is a natural sequence that specialization in repair work should develop," says W. H. Custis, Peoria, Ill. "There is a field in every city of 5000 or over for an enterprising man who will specialize in radiator repairs. Most of this work has been done in the past by the tinsmiths, who plug the holes in the front and create an unsightly appearance. The only proper method is to apply the solder by means of torches which produce a fine flame, capable of penetrating the interstices of the metal, checking the leak without defacing the exterior surface. I use



from the city mains only, and apply flux, a cleansing material. I am able to make repairs in one-fourth of the time usually required by the tinsmiths and, consequently, can quote lower terms. Due to the high cost of alcohol and glycerine, as well as their scarcity during the war, radiator trouble has been increasing, and there is a large amount of this work. The improper solutions honeycomb the metal and leaks are the result. A mechanic who wishes to embark in business for himself will find a profitable field by opening a radiator repairshop. If he will install the proper machinery, he can make repairs in a workmanlike manner and be able to charge much less than the ordinary tinsmith, and, at the same time, avoid defacement of the metal. With proper business methods such a man will soon build up a flourishing business."

### Won Roads Appropriation

BAKERSFIELD, CAL., May 8—The Kern County Automobile Trade Association tendered a dinner in honor of George Haberfelde, its president, Monday evening, May 5, in recognition of his work in winning a difficult fight last week in the state legislature to include in an appropriation for state roads, the Kern River road project, which from this point will link the main highway through the state with the Lincoln highway in Nevada.

This road project was in open competition with a road advocated by Los Angeles, which latter measure had already been carried, and the success of Kern County against such extreme odds was due to the help of the California Automobile Trade Association and the friends and support that its members could command. Haberfelde is vice-president of the state association.

## News of Indianapolis

By John B. Orman

Manager of the Indianapolis Automobile Trade Association

INDIANAPOLIS, May 8—The Indianapolis Automobile Trade Association had its annual dinner Friday night, May 2, and it was the most successful we ever held. Two hundred and twenty-six persons were present, and all pronounced it a great affair. We had assembly singing, led by song leader F. E. Ellis, from Camp Sherman, and a vaudeville bill, that would make Keith sit up and take notice. Jazz orchestra selected from talent from the 5th Infantry Regimental Band of Camp Grant, and a beef-steak dinner, cooked as they cooked in the old home, when mother was boss of the kitchen.

We also made the first showing of a painting of our new automotive show building that is to be erected at the Indiana State Fair grounds. When President Wagoner pulled the string that dropped the cover from this picture, the applause was wonderful in its earnestness. We had as our guest Thos. J. Hay, treasurer of the National Automobile Dealers' Association, and as Indianapolis is Tom's old home, we made quite a fuss over him.

The Moon car has been taken on here by the A. C. Webb Co., which will become the distributor of the car in the Indianapolis territory.

B. F. Kelly, who has for some time past been connected with the B. E. Grifey Motor Supply Co., and well known among the high brows of the industry here, has been appointed director of sales for the Weidely Motors Co. Kelly started in the business as purchasing agent for the old Overland Automobile

Co., when this company had its plant in Indianapolis.

J. R. Fletcher, for several years connected with the sales department of the Underwood Typewriter Co., and for the last year in the sales department of the Losey-Nash Motors Co., has joined the sales force of the R. V. Law Motor Co., and in the future will push the sales of Hudson and Essex cars in this vicinity.

The United Motors Service, Inc., has established a branch here in charge of H. H. Willits of Chicago. The Delco Electric systems, Klaxon warning signals, and Remy electrical service make up the trio of leading items to be handled by the company.

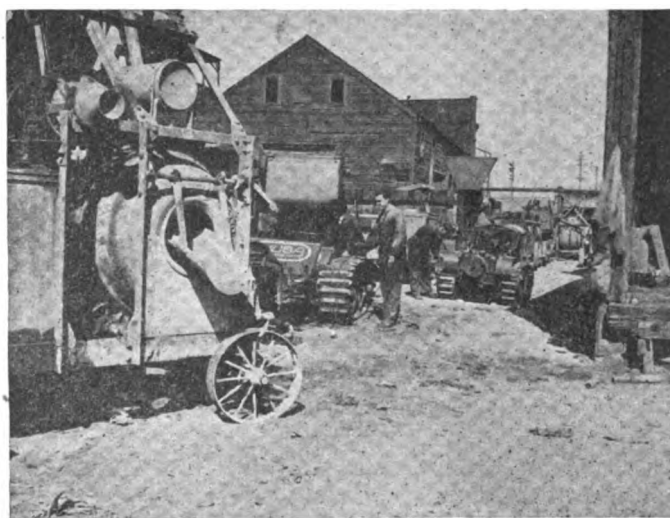
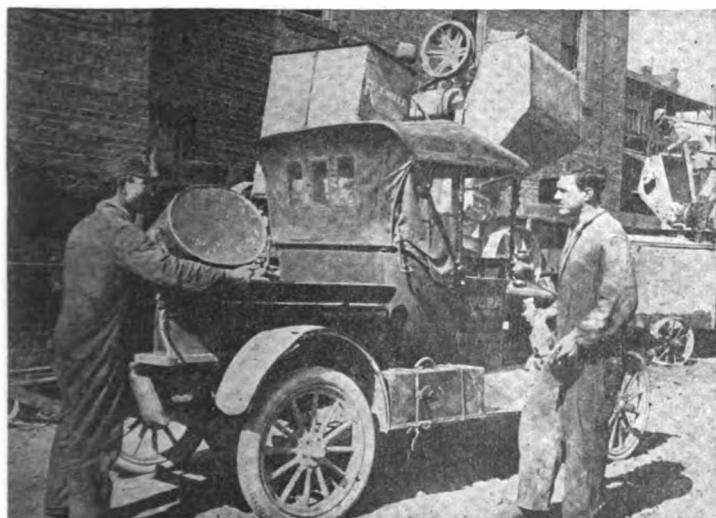
Twenty-five months' service in which over two million pounds of live stock has been delivered to the local stock yards is the record of a Federal truck, owned by R. V. Cunningham of Advance, Indiana. Cunningham is an old timer in the stock hauling business, and, in addition to realizing big profits from his hauling of stock, is building up a most substantial business in return loads. He stated yesterday that in his opinion over 80 per cent of all live stock delivered into Indianapolis within a radius of fifty miles is hauled by motor trucks.

N. H. Cartinhour, vice-president of the Indianapolis Automobile Trade Association, has been appointed commissioner of the Commercial Vehicle Division of the National Automobile Dealers' Association. Cartinhour is a member of the Cartinhour-Bowman Co.

### Bus Service for Detroit

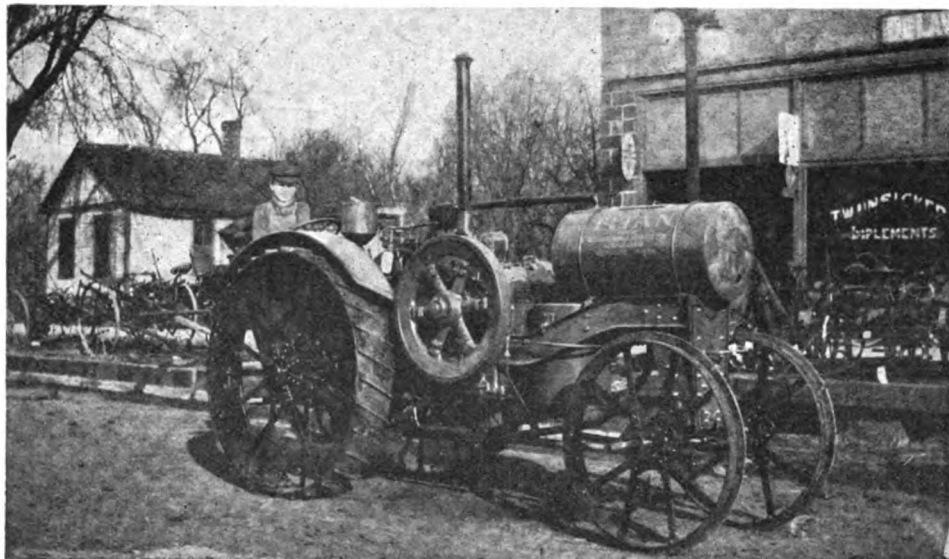
DETROIT, May 10—Double-deck motor buses, similar to the Fifth Avenue buses which carry three and one-half mil-

## Maintains a Mobile Repairshop for Instant Service



**T**HE A. F. George Co., Los Angeles, has five service cars ready for use at any time. Tools and parts are taken along on each trip. Adolph Joos, loading the tank, has been sent as far as Lower California in answer to a service call. On the right is shown the shop where tractors are brought for overhauling or when there is too much work necessary on the tractor to do it on the owner's premises





MEET WILLIE UNSICKER OF FORREST, ILL.

Here are two pictures of Willie Unsicker, age 11 years, the youngest tractor salesman that we know of. If there are any other claimants for the honor, send them in

lion passengers monthly in New York City, will be in operation in Detroit before the end of this summer. Richard W. Meade, former president and general manager of the New York Coach Co., is president of the Detroit Motorbus Co., recently incorporated and getting ready for business. The company will operate the first fleet of 20 buses in Jefferson Avenue, with one terminal at Campus Martius and the other near the Hudson and Chalmers motor car plants, with a later extension to Grosse Pointe.

#### Trailer Makers Open Offices

NEW YORK, May 10—Headquarters for the recently organized Trailer Manufacturers' Association of America have been opened here at 110 West Fortyeth Street. A meeting of the executive committee is to be held shortly, when matters of interest and importance to the trailer industry will be considered and action regarding various matters decided upon.

#### Acason Handles Sales Direct

DETROIT, May 10—Sales and service of Acason motor trucks will be handled direct by the factory according to an announcement by vice-president and director of sales, Harry Conlon, of the Acason Motor Truck Co. The sale of Acason trucks at retail in Detroit and wholesale for Michigan will be handled by a special department of the factory which will be in charge of H. P. Mills. Arthur C. Acason will assist Mr. Mills.

#### Buys Red Head Plug Business

NEW YORK, May 10—The Red Head Spark Plug Corp. has been formed with principal sales offices at 261 Broadway and has taken over the Red Head spark plug business formerly operated by the Emil Grossman Mfg. Co., Brooklyn, N. Y. The new company has no connection with the old one. It will continue and enlarge the business. A new insulating plant has just been opened at Newtown, Pa.

### Knee Pants; 11 Years Old; Sells \$50,000 a Year

WEARING knee breeches and yet being able to sell \$50,000 worth of farm tractors in a single season, that is the remarkable record of Willie Unsicker, the 11-year-old tractor salesman of Forrest, Ill. He and his father, T. W. Unsicker, who is a veteran implement dealer of that place, disposed of 26 machines last year at an average of \$2,000 each.

When the parent decided to add tractors to his line of farm implements, the boy, who is a natural mechanic and for whom machinery has a fascination, made a thorough study of the machine and soon became an expert. Prospects are turned over to him, he makes a clear explanation of the mechanism, runs the machine up and down the street and then gives an exhibition of plowing at a neighboring field. Skeptical farmers who doubted their ability to handle the big machines are won over by the skill of the boy and feel that if the mere child can handle it an adult should have no trouble.

When the prospect has been told all that there is to tell, he is turned over to the parent by the youthful salesman, and the latter seeks another, while the father usually completes the deal and lands the signed contract.

#### Truck Parts Service by Airplane

WABASH, IND., May 10—The first regular use of aviation in commercial transport was made Thursday when deliveries of repair parts for Service trucks were made by two airplanes, operated by the Service Motor Truck Co. The repair parts were ordered by wire by the Firestone Tire & Rubber Co. for the Service trucks operated by that com-

pany in Akron. The telegram was 12 min. in transit and 18 min. after it was received at the Service plant at Wabash the first plane was on its way and the parts ordered were delivered in Akron, about 200 miles distant in 2 hrs. and 45 min.

The Service Motor Truck Co. has installed four Canadian JN-4 planes to render quick service. The planes are operated by army flyers, and it is expected that this service will be especially valuable. In addition to delivering Service truck parts, the company is organizing the Service Aviation Training and Transportation Co., to train aviators, arrange for passenger flights, make express delivery and stage exhibitions.

#### New York Office for Walden-Worcester

WORCESTER, MASS., May 10—Walden-Worcester, Inc., has opened a New York sales office at 295 Broadway. Howard H. Seward is in charge.

#### Huffman Bros. to Make Trucks

ELKHART, IND., May 10—Huffman Bros. Motor Co., formed recently, has secured a plant in which will be manufactured two types of medium-priced trucks, one with internal gear drive at \$1,495, and the other with worm-drive at \$1,695. W. L. Huffman is president of the company and other officers are: Vice-president, F. C. Huffman; treasurer, Leroy Huffman; secretary, Verne C. Cawley; general manager, R. S. Wiltrout; sales manager, N. L. Kuhnen.

#### Mitchell Plans for 100 a Day

RACINE, May 10—The Mitchell Motors Co. completed its government four-wheel drive truck contract last week, and is now returning to commercial production as quickly as possible. It is expected that the plant will reach a production of 100 cars a day within the next month.



## Tire Makers Reduce Prices 15%, Effective Immediately

**Practically All the Larger Companies and Many of the Smaller Ones Make Similar Cuts—Expected That All Manufacturers Will Fall in Line Soon**

NEW YORK, May 12—A not altogether expected reduction in tire prices becomes effective to-day in the case of a number of the large makers, and it is likely that practically all manufacturers will fall in line before the end of the week. The reduction amounts to approximately 15 per cent.

Late last week rumors of a forthcoming cut became persistent. Tire makers however, stated that no change in schedules would be made in the immediate future and a number of them went so far as to present reasons why a revision upward was more likely than a revision downward. Despite this the reduction has been quite general. It is expected that the new prices will hold for several months. Following are new and old prices of those companies that have made reductions and comments of others regarding the situation:

**Fisk**—Not heard definitely yet from factory—assume prices will drop about 15 per cent.

**Kelly - Springfield**—At present engaged in working out new prices—no information as to extent of drop available.

**Lee**—In conference on the subject of prices. Result will not be known until late to-day or possibly to-morrow.

**United States**—Will be reduced approximately 15 per cent on all brands except the USCO, which will be reduced about 13 per cent. There will be slight fluctuations in these reductions throughout the list where manufacturing costs are higher or lower in certain sizes.

**Republic**—There will be a conference at the factory some time to-day to consider the matter.

**Braender**—Reductions will be made, but lists have not been made up yet.

**Carlisle**—No reduction.

**Ajax**—Will undoubtedly meet the reduction. No lists made or decision reached yet.

**Empire**—Not heard definitely yet from the factory.

**Hood**—At present holding up billing in expectation of a drop of 10 to 15 per cent.

**McGraw**—No change made as yet; no word from factory.

**Michelin**—Probably will be a drop of approximately 15 per cent to-day.

**Portage**—No word yet, and nothing will be known for two or three days.

**Thermoid**—May or may not be revision of the list; not decided yet.

**Pennsylvania**—Lists and trade prices will be reduced 15 per cent.

### Auto Supply Reorganized

NEW YORK, May 10—Very shortly the Auto Supply Co., which maintains a Broadway store and does a large jobbing and retail business in automotive equipment, will cease to exist under its present name. John Lurie, Inc., has been formed with a capital stock of \$200,000 to take over the old company, which has been in

business at its present stand since 1899. Lurie has been a principal owner of the company ever since its formation. Associated with him are Harvey W. F. Adams, who long has been general manager of the company, and S. L. Swartz. The company has just completed a very extensive enlargement of its store, which is at 1789 Broadway.

### Will Finance Car Sales

DETROIT, Mich., May 10—The Motor Bankers Corp. is the name of a new company just organized here to finance retail sales of new and used cars and trucks, following in a general way the approved methods of other finance and guaranty companies. The directorate of the new company includes Clarence H. Booth, formerly manager of the Studebaker Corp.; Alonzo P. Ewing, manager of the Michigan Copper & Brass Co.; Edward A. Loveley, of Stormfeltz & Loveley; Harvey B. Wallace, of the Trueing Wheel Tool Co.; Luman W. Good-

enough, attorney, and Richard D. Ewing, recently discharged from the army as a captain in the office of the Secretary of War. The last named will act as active manager of the corporation.

### To Permit Aero Insurance

ALBANY, N. Y., May 10—Three bills amending the state insurance laws to permit marine, fire and casualty insurance companies to insure against loss or damage to airplanes, seaplanes, dirigibles and other aircraft, have been signed by the Governor. He also signed the Booth bill requiring motor trucks operating on state highways to be equipped with mirrors or some reflecting device giving drivers a view of the road in the rear.

### Philadelphia To Hold Outing

PHILADELPHIA, May 10—The Motor Truck Association of Philadelphia will hold its annual outing on June 21, at Kugler's Mohican Club, with the Philadelphia Automobile Trade Association, the Automobile Accessories Business Association and the Camden Automobile Trade Association.

### DeLissor Made Ajax President

NEW YORK, May 10—Horace DeLissor has been made president of the Ajax Rubber Co., succeeding H. L. McLaren, who resigned recently. C. R. Collins, advertising manager, resigned a few weeks ago. His successor has not yet been appointed.

### NEW AND OLD PRICES OF GOODYEAR TIRES

	Plain		N. S.		Regular Tube		Heavy Tube	
	New	Old	New	Old	New	Old	New	Old
30 x 3.....	\$12.90	\$15.80	\$15.75	\$18.50	\$2.75	\$3.35	\$3.40	\$4.35
30 x 3½.....	16.80	20.05	20.00	23.50	3.25	3.90	3.90	4.95
32 x 3½.....	19.45	23.50	23.35	27.45	3.70	4.20	4.25	5.45
33 x 4.....	27.40	33.50	33.35	37.40	4.75	5.80	5.25	7.45
34 x 4.....	28.10	34.30	34.10	40.10	4.95	5.90	5.50	7.65
34 x 4½.....	37.80	45.50	45.25	53.25	6.10	7.40	6.80	9.60
35 x 5.....	45.10	55.80	55.55	65.35	7.45	8.95	8.35	11.55
37 x 5.....	.....	.....	58.85	69.25	7.75	9.30	8.75	12.05

\*This size not made in plain type.

### NEW AND OLD PRICES OF GOODRICH TIRES

	Fabric Tires		Cord Tires		Tubes	
	Plain	N. S.	Ribbed	N. S.	Gray	Red
	New	Old	New	Old	New	Old
30 x 3.....	\$12.90	\$15.20	\$14.75	\$15.85	\$2.75	\$3.45
30 x 3½.....	16.80	19.60	18.70	20.65	3.25	4.20
32 x 3½.....	19.45	23.05	21.85	24.25	3.70	4.35
33 x 4.....	27.40	32.15	31.20	33.70	4.75	5.65
34 x 4.....	28.10	32.95	31.85	34.55	4.95	5.80
34 x 4½.....	37.80	44.35	42.75	46.60	6.10	7.05
35 x 5.....	45.10	52.90	52.50	55.55	7.45	8.80
37 x 5.....	47.75	55.90	55.60	58.80	7.75	9.10

### NEW AND OLD PRICES OF FIRESTONE TIRES

	Fabric Tires		Cord Tires		Tubes	
	Plain	N. S.	Triple Tread	N. S.	Gray	Red
	New	Old	New	Old	New	Old
30 x 3.....	\$12.90	\$15.55	\$15.75	\$18.00	\$2.75	\$3.20
30 x 3½.....	16.80	19.75	20.00	23.00	3.25	3.80
32 x 3½.....	19.45	23.50	23.35	27.15	3.70	4.25
33 x 4.....	27.40	33.00	33.35	39.00	4.75	5.55
34 x 4.....	28.10	34.00	34.10	40.00	4.95	5.65
34 x 4½.....	37.80	45.50	45.25	53.00	6.10	7.15
35 x 5.....	45.10	57.00	55.55	66.50	7.45	8.75
37 x 5.....	.....	.....	58.85	69.00	7.75	9.05

\*This size not made in plain type.



## Resignations and Promotions Place Workers in New Places

### Prominent Tradesmen Assume New Duties

Avery C. Hammond, who has been manager of the Columbus branch for the Good-year Tire & Rubber Co. for the past 6 years, has been appointed manager of the mechanical goods department for the same company for New Zealand and will sail in July to take up his new work.

L. S. Henry has been appointed manager of the service department of the Briscoe Motor Sales Co., distributors in St. Louis for the Briscoe and Liberty motor cars. He formerly was with the Henry Motor Service Co., which now is the St. Louis Motor Service Co.

Alex Steiner, recently discharged from the army after 9 months in France as captain of infantry in the 89th division, has been appointed general manager of the Rotterman Automobile & Truck Co., St. Louis. Before joining the service he was general manager of the Velle Auto Co. in St. Louis.

George Schaefer has been appointed service manager of the electrical department of the Battery Exchange, St. Louis. He was for many years connected with the Fred Campbell Auto Supply Co.

Frank S. Griesinger has been made manager of the St. Louis branch of the Good-year Tire & Rubber Co., with which he has been connected for the last 3 years in charge of truck tire distribution in the Southwest, with headquarters in St. Louis. A. G. Cameron, his predecessor, is now in charge of the Australian export business of the Good-year company.

J. W. R. Tennant, formerly vice president of the Tennant Motor Co. and the Tennant Oakland Co., of Chicago, has recently assumed active management of the Iowa Guarantee Mortgage Corp., Des Moines. The Des Moines concern was organized about a year ago to give special time payment banking service to the motor car and truck dealers of the state to finance their time payment business.

J. H. Weller, formerly assistant production manager of the Packard Motor Car Co., has just been appointed assistant to B. W. Burtzell, president of the Herschell-Spillman Motor Co., North Tonawanda, N. Y., and will be in charge of production.

George H. Hunt has been appointed sales manager of the wheel division of the Detroit Pressed Steel Co. For several years he was manager of the Detroit branch of the Stromberg Motor Devices Co.

G. R. Lundano has been placed in charge of the New York office of the Black & Decker Mfg. Co., Baltimore, just opened in the Equitable Building. He will supervise sales in New York City and the state of Connecticut. Lundano was formerly service manager for Thos. B. Jeffery Co., Kenosha, Wis., and has recently been connected with Findelsen & Kropf Mfg. Co., Chicago.

J. H. Malone has been elected a director of the Hudson Motor Specialties Co., Philadelphia.

C. C. Signor, Grand Rapids, Mich., for many years associated with Ford distribution and sales in Wisconsin and Michigan, has joined the T. W. Melklejohn Co., Fond du Lac, Wis., state distributor of the Fordson tractor, as manager of sales. Signor was in business as Ford dealer at Grand Rapids for



**HARRY T. GARDNER**

*For several years manager of the Syracuse Automobile Dealers' Association and manager of the Syracuse show, has been engaged as manager of the Automobile Dealers' Association of New York City, which is expanding and planning greater work. Gardner enters the new position to-morrow, May 15.*

### Motor Car Securities

New York Stock Exchange closing quotations May 10, 1919:

	Bid	Asked
Fisher Body, com.....	57	58
Fisher Body, pfd.....	98	98½
Goodrich, B. F., Co., com.....	71	71½
Goodrich, B. F., Co., pfd.....	107¾	108
Kelly-Springfield, com.....	124	124½
Kelly-Springfield, pfd.....	94	96
Kelsey Wheel, com.....	41	43
Kelsey Wheel, pfd.....	94	96½
Keystone Tire and Rubber Co.....	95¼	95½
Lee Rubber and Tire.....	33¾	34
Stewart Warner.....	93	99½
Stromberg.....	43	44
U. S. Rubber, com.....	95¼	95¾
U. S. Rubber, pfd.....	112½	113
Chandler.....	153	154
General Motors, com.....	190	190½
General Motors, pfd.....	92¼	93
General Motors, Deb.....	90	90¾
Maxwell, com.....	40	40¾
Maxwell, 1st pfd.....	68½	69
Maxwell, 2d pfd.....	30	31
Pierce-Arrow, com.....	51	51½
Pierce-Arrow, pfd.....	104	105
Saxon.....	8	8½
Studebaker, com.....	82	82½
Studebaker, pfd.....	98	100
Stutz.....	58¾	58½
White.....	58¾	59¼
Willys Overland, com.....	34¾	34¾
Willys Overland, pfd.....	96¾	97½

two years, retiring to enter the power farming field.

Fred I. Tone, former vice-president and chief engineer of the American Motors Co., Indianapolis, and later chief engineer of the United States Ball Bearing Co., is now with C. Harold Wills, former chief of the Ford Motor Co., who is making ready to enter the car manufacturing field in Detroit.

Peter T. Hill has joined the sales department of the Torbensen Axle Co.

Guy Wright, formerly assistant sales manager of the Buda Motor Co., Harvey, Ill., has been made sales manager, succeeding Lon R. Smith, who resigned to become sales manager of the Midwest Engineering Co., Indianapolis.

Sherman W. Dorman, who for the past three years has handled the buying of accessories for the Biddle Purchasing Co. for domestic and foreign trade, is now connected with the Overseas Motor Service Corp. as manager. The corporation will handle a number of accessories in foreign fields exclusively, those controlled by the United Motors Co. being prominent.

H. A. Flogaus has been appointed to the engineering staff of the Malbohm Motors Co., Sandusky, O. For 4 years he was automotive engineer with the Willys-Overland Co. at Toledo, and later was with the Curtiss Aeroplane & Motor Corp., Buffalo.

George W. Brooks has been appointed representative for Texas, Oklahoma, Kansas, Arkansas and New Mexico for the Hudson Motor Specialties Co., Philadelphia.

Lon R. Smith has resigned as sales manager of the Buda Co., Harvey, Ill., effective June 1, to become general sales and advertising manager of the Midwest Engine Co., Indianapolis. The Midwest Engine Co. was formed late last year to take over the Lyons-Atlas Co. and the Hill Pump Co. It is capitalized at \$3,500,000 and will produce oil engines and centrifugal and reciprocating pumps.

J. M. Robbins, former district manager for the Chalmers Motor Co., at Omaha, is now at the head of the Fulton Truck Co. of Nebraska. This company, just formed, will distribute Fulton trucks in Nebraska, with Omaha as headquarters, where he will open a salesroom.

Capt. Wakeman Hackett, recently released after 20 months in service, has become associated with the Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis., as factory representative covering the Middle West.

William A. Blackburn, formerly factory manager of the Cadillac Motor Co., has assumed the management of the Gray Motor Co. of Detroit.

Walter T. Reese, formerly in the purchasing department of the Studebaker Corp., has become sales representative for the Motor Materials Co., Detroit.

Russell Munro has returned from France and has resumed his duties as assistant advertising manager of the Ford Motor Co., Detroit.

James G. Roe has resigned as advertising manager of the J. C. Wilson Truck Co., Detroit, and has joined the Green-Fulton-Cunningham Co., advertising agents.

A. E. Cryslar has joined the Commerce Motor Car Co., Detroit, as assistant to the Director of Sales and Advertising.

William A. Blackburn, former factory manager of the Cadillac Motor Car Co., has assumed the position of manager of the Grey Motor Co., Detroit. He was with the Cadillac Company 12 years.





### PATERSON HAD A FINE SHOW

*This is part of the show that was held by Paterson, N. J., dealers at the Fifth Regiment Armory, the middle of last month. The cars and trucks occupied the ground floor and the accessories were grouped in the galleries. The Paterson Automobile Trade Association sponsored the show and H. Mac Guiley was manager*

### My Old Car Is Worth More

(Continued from page 17)

ness and doesn't make money is hurting the reputation of Callawassa and making it a less desirable place to live in, and that if nobody makes any money the town would soon slump, its banks would deteriorate, people would have to move away from the city and the investments of the people in their homes and properties would be lost. We have just enough pride in the city of Callawassa to be one of those who are not going to injure the town in that way. Doubtless the prospect has similar ideas on the subject of making money—for himself.

"As an added detail, state that every time we roll a used car into our door it costs us fifty dollars. We also decline to sell cars that are not in tip-top condition, and it will take, say, a hundred dollars at least to put his car through our shop and make it worth seven hundred. Furthermore, we decline to handle cars on which we cannot make a profit and on which the salesman who works for a living cannot make a commission, which means that we must add fifty dollars more in order to look real people in the face and know we are operating on sound lines. That makes our price to him five hundred dollars—and NO MORE.

"He also doesn't realize that his car is NOT worth seven hundred dollars as it stands. The major portion of the value of a new car is NOT mechanical. Much of the value is in the pride of ownership,

and when the car has been driven at all this pride of ownership element has been eliminated. If a man wants mere mechanical value he can get it in a used car, but the man who buys a used car is not buying for pride of ownership. He buys for service only, and if we ask him to pay too much we ask him to pay for a pride of ownership that isn't there.

"Then, on this pride of ownership you can mention in conclusion our pride in our business, every man's pride in our city, and then you can get back again to what a thing our new car is to be proud of and you can drive the original sales story in deeper than before."

### Black Hawk County Organizes

WATERLOO, April 29—Waterloo dealers to-day formed the Black Hawk County Motor Trades Bureau, which is to take the place of the former Waterloo Motor Dealers Association. In cooperating with the new state organization, known as the Iowa Motor Trades Bureau, the Waterloo dealers believed it best to form a county organization rather than one for the city. A constitution has been adopted and already most of the dealers, garageman, and others connected with the industry have become members. Every dealer and garageman, etc., in the county is going to be enrolled.

Tonight Waterloo dealers, as well as many from Cedar Rapids and adjoining area to the number of 75, held a monthly

dinner at which David Beecroft, directing editor of the Class Journal Co., spoke on his experiences in the war zone during November and December.

### The Chevrolet Model 490 Gearset

(Continued from page 23)

6—Clean out the compound, test with Prussian blue again and repeat the operation till the fit is snug at all points.

7—Replace the key.

8—Put the gear on the shaft.

9—Take a piece of pipe or tubing of which the inside diameter is a trifle larger than the end of the shaft and, holding it against the gear, strike several smart blows with a hammer.

10—Replace the drive-pinion nut and draw it up tight to the gear.

11—Insert the cotter pin and spread it.

### Fordson Plant Starts Again

DETROIT, May 12—The Fordson Tractor plant at Dearborn is gradually getting back into production again after a 15-day suspension of operations for inventory. While it may be two or three weeks before the company gets into full production, operations started this week with a fairly large force. The company found that it was overstocked with certain materials and to bring conditions to a balance again, operations are being pushed in the over-stocked departments and curtailed in those departments where conditions are normal. It will be several days before things adjust themselves.



## National Tractor Demonstration for Denver

**Tractor Club and Livestock Bureau to Co-operate in Staging Event June 8-14—Expect Record Crowd**

DENVER, COL., May 10—It is now settled that Denver will have a national tractor demonstration June 8-14, the Denver Civic and Commercial Association having agreed to underwrite the necessary \$6,000 for preparation expenses. The Denver Tractor Club and the civic body's Agricultural and Livestock Bureau will also co-operate toward the success of the enterprise.

A suitable tract of more than 2000 acres has been obtained near the city, and committees have been appointed to provide for an ample water supply, motor transportation for visitors between the end of the street car line and the exhibition field, highway improvements, traffic regulations, eating arrangements and other details.

President A. E. Hildebrand of the National Association of Tractor Manufacturers, who was here last week conferring with local promoters of the event, declared the present Denver lay-out the best he has seen in connection with tractor demonstrations anywhere in the last 8 years. He predicted an attendance from a dozen Western states, reaching as far east as the Mississippi valley. Fifty thousand visitors a day are expected by the local men in charge of the big show, with fifty or more tractor manufacturers to be represented.

### Climber Starts in Little Rock

LITTLE ROCK, ARK., May 10—The Climber Motor Corp., which will make a car, truck and tractor, has just completed its new plant here. Machinery is being installed and operations will start before May 15. The plant is one-story, 100 ft. x 300 ft. Other units will be built later. George Schoeneck is chief engineer. He has been in charge of a small shop in Detroit where the first Climber experimental cars were made. The plant will start work with a force of 100 men. It is proposed to produce ten cars daily during the first year. H. F. Buhler is sales manager of the company.

### Cleveland Tractors now "Cletrac"

CLEVELAND, May 10—The Cleveland Tractor Co. has adopted the name "Cletrac" as the registered name of its tractor. The phrase Tank-Type-Tractor is to be used in connection with the name, since the Cletrac is of crawler construction, and has the battle tank's facility for doing its work under the most difficult conditions.

### To Make Vim Tractor

MILWAUKEE, May 10—The Vim Tractor Co. has been organized to take over the plant and equipment of the Standard Machinery Co., Schleisenger-ville, Wis., manufacturer of gas and

kerosene engines, which recently has developed a tractor design to be placed in quantity production by the new corporation. The Standard works are being re-tooled and will be ready to begin manufacturing tractors by May 15. Officers of the Vim company are: President, Charles D. Storck; vice-president, John F. Mayer; secretary, Dr. Philip M. Kauth; treasurer, Peter Schuck; works manager, Otto E. Zahn.

### Canada Bought 1135 Fordsons

OTTAWA, May 10—In 1918, 1135 farm tractors were purchased by the Canadian Food Board of the Department of Agriculture. The price paid was \$750, f.o.b. Dearborn. No duty was paid on them. The retail price to farmers in Ontario, Quebec, Nova Scotia, New Brunswick, P. E. I., British Columbia, was \$750, f.o.b. Dearborn. The price to farmers in Manitoba, Saskatchewan, Alberta, was \$795, f.o.b. point of delivery. The tractors have all been sold.

### Tractors Coming From Evansville

EVANSVILLE, IND., May 10—A new company, capitalized at \$1,000,000, has been formed here for the manufacture of farm tractors. Robert C. and J. B.

Graham, of Graham Bros., Inc., glass product manufacturer, and Benjamin Bosse, president of the Bosse World Furniture Co., are interested in the new concern. Besides a local plant it is planned to have a branch at Loogooteo.

### More Room for Samson

JANESVILLE, May 10—Contracts have been awarded by the Samson Tractor Co., subsidiary of General Motors Corp., for the construction of the second unit of the new tractor plant at Janesville, where a total investment of \$4,500,000 is contemplated. The first unit, 200 x 500 ft., was finished late in March. The second building will be an exact duplicate of the original unit.

### Michigan Licenses Jump

LANSING, May 10—In 1909 there were 11,718 automobile licenses issued in Michigan, while last year the total was 262,125 and estimates for this year indicate a registration of 310,000. During the first 4 months of the present year 63,108 licenses were issued in Wayne County, 10,607 in Kent, 6598 in Oakland, 6325 in Genesee and 5628 in Ingham.

### Canadian Branch for Auto Specialties

ST. JOSEPH, MICH., May 10—The Auto Specialties Co. will build a branch factory in Windsor, Ont. It will be a duplicate of the plant in St. Joseph. The company contemplates an expansion of Canadian business.

## Just Cans of Paint and Flags



*This window shows what can be done in the way of display with nothing in the way of merchandise except cans of paint or varnish. The set-up is simple and is suggested by the Columbus Varnish Co. Clean out your window and try this display for a week. Are you getting ready for May 30 displays?*



## 20,000 ARMY TRUCKS TO BE USED ON ROADS

*Part of 31,000 Surplus For  
This Purpose Will Leave  
None For Public Sale*

WASHINGTON, May 8—Twenty thousand motor trucks are being turned over to the Bureau of Public Roads, Department of Agriculture, by the War Department to be distributed to the various states for use on road construction. These trucks are part of the 31,000 which were recently declared surplus by the War Department, and this disposition of them actually insures that there will be no trucks available for sale to the public or for resale to the manufacturers. The Post Office Department has requisitioned 7000, and it is expected that other government bureaus will absorb the remaining 4000.

The trucks turned over to the Department of Agriculture are valued at \$45,000,000 and include 11,000 new and 9000 used vehicles ranging from 2 to 5-ton capacity, all in serviceable condition.

The trucks are turned over under provisions of the Post Office Appropriation Bill, which authorizes requisition of surplus trucks from the army by the different government departments. They must be used by the states on road construction under the Federal Road Aid Act. The only charges which the states will pay will be for loading and freight. The trucks will be apportioned to states only upon request of the State Highway Department on the basis of the requests received and in proportion to the financial apportionment under the Federal Road Act. Requirements of the law prohibit the distribution of any of these trucks to counties or individuals.

### National Highway Plan Unanimously Endorsed

ST. LOUIS, May 8—The national highway policy and plan of the Chicago Highway Congress was unanimously endorsed at the annual meeting of the Chamber of Commerce of the United States, held here yesterday. Because of the recognized importance of highways transportation, the appointment of a Federal Highway Commission is recommended to take care of all questions pertaining to the national road system. Provision is also suggested for continued federal aid for highways beyond 1921, when the present Federal Aid law terminates. The resolution adopted reads:

"That highways are an integral part of our nation's system of transportation has been emphasized by the war and an enormous development is at hand. So important as to require a comprehensive national policy under which federal appropriation for highways will be applied to national needs for interstate commerce, agriculture, postal delivery, common defense and general welfare.

"Congress should create a Federal Highway Commission independent of present departments of the government, composed of

members from the different geographical sections of the country to perform all executive functions of the federal government pertaining to highways, including those relating to existing appropriations in aid of state construction. Such a commission should act in coordination with any federal agency that may have functions of articulating rail, trolley, water and highway transportation.

"Congress should make substantial appropriations for the construction and maintenance of a national highway system to serve the need for the maintenance of interstate travel and traffic.

"The commission should report to Congress a plan for continued aid for state construction of highways in the period beyond 1921 to which time the provision of existing federal aid laws extend.

"Expenditure of funds should be permitted only for highways which are of permanent type having thorough drainage, substantial foundations, sufficient width and a capacity for traffic which will be reasonably adequate for future needs."

## Try This One

ROY STUEBER, manager of the 555 Tire Service Company of Little Rock, has inaugurated a new "kink" in rendering good road service to his road patrons. Mr. Stueber has made arrangements with the *Arkansas Democrat* for a large number of newspapers each evening.

He stamps these words on the front page: "Good evening, sir. Here is your evening newspaper. With compliments of the 555 Tire Service Company—a part of 555 service."

When the service boy arrives at his destination he first presents the stranded motorist with the newspaper. "In this way not only is the customer provided with entertainment, but his mind is kept off the job and the service boy can proceed with his work without the usual interruption and correction.

### National Organization of Liberty Highway

SPRINGFIELD, ILL., May 10—At its first annual convention held here to-day, the national organization of the Liberty Highway Association was effected. Stephen Lawless, Liberty, Ill., was elected president and Truman T. Pierson, Quincy, Ill., treasurer and national organizer. Other officers are: vice-presidents, R. J. Holmes, Decatur, Ill.; C. A. Hetrick, Asbury Park, N. J.; Joseph T. Daniels, Columbus, O.; George A. Binkert, Quincy, Ill., and W. H. Conkling, Springfield, Ill. The organization has been formed for the purpose of having a hard surfaced highway built across the continent from ocean to ocean.

### Good Roads for Jackson

JACKSON, MICH., May 10—Jackson County supervisors have voted to issue and sell \$500,000 worth of good road bonds this year, same to be disposed of at once. The program calls for the construction of 57.95 miles of gravel roads at a cost of \$200,000 to \$250,000. The remainder of the program will be outlined later.

## APPROVE ROAD PLANS COSTING \$16,261,326

*Record Amount of Federal Aid  
Sanctioned in April—Cov-  
ers Nearly 1000 Miles*

WASHINGTON, May 6—During April, 1919, the Secretary of Agriculture approved statements for 120 Federal aid projects, involving the improvement of 923.53 miles of road at a total estimated cost of \$16,261,326.51, and on which Federal aid in the amount of \$7,520,550.68 was requested.

This represents the largest number of project statements approved, the largest total estimated cost, and the greatest amount of Federal aid requested during any month since the passage of the Federal Aid Road Act, March, 1919, had surpassed all records in these items up to that month.

During April fifty-five road projects were approved and executed involving the improvement of 521.51 miles of road at a total estimated cost of \$4,626,415.48, and on which \$2,039,614.99 Federal aid was requested and set aside in the Treasury. In addition, agreements to cover seventy-two other projects were placed in process of execution during the month.

Up to and including April 30, 1919, project statements for a total of 1057 projects had been approved, after deducting all approved projects cancelled or withdrawn by State highway departments. The 1057 projects involved 10,580.17 miles of road, a total estimated cost of \$92,933,121.81, and a total of \$36,576,857.48 Federal aid.

On the same date a total of 535 project agreements had been executed, involving 4,624.83 miles of road, a total estimated cost of \$39,059,327.44, and a total of \$15,614,929.61 Federal aid.

### \$40,000,000 for California Roads

LOS ANGELES, May 10—California will vote July 1 on a proposal to float an additional \$40,000,000 good roads bond issue. There is every reason to believe that the election will carry as the populace of this state well understands the value of permanent highways. The state already has voted more than \$10,000,000 for permanent highways.

### Service Products Incorporates

INDIANAPOLIS, May 10—Under the name Service Products Corp., a new concern has been incorporated under the laws of Indiana, with \$50,000 capital, for the purpose of manufacturing radiator fans for automobiles, trucks and tractors, with the following officers: Harry J. Enders, president and superintendent; R. B. Parrott, secretary and treasurer; R. C. Root, chief engineer. Annular bearing fans will be featured. A factory at 301 Kentucky Avenue, at Missouri Street, has been secured, and active production will begin at once.



## COMING EVENTS

### Races, Contests and Tours

Uniontown, Pa.	May 17	Probably 112½ miles.
Atlantic City, N. J.	May 30	Airplane race, Aeronautic Convention.
Los Angeles, Cal.	May 30-31	Third Annual, Los Angeles-Yosemite gasoline economy run.
Richmond, Va.	May 30-31	Dirt track meet, Virginia State Fair Grounds.
Indianapolis, Ind.	May 31	500-Mile Sweepstakes, Indianapolis Speedway.
*Sheepshead Bay, N. Y.	June 14	Speedway.
Atlantic City, N. J.	July 4	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	Speedway.
Cincinnati, O.	July 5	Speedway.
Uniontown, Pa.	July 19	Mid-Summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	Speedway.
*Middletown, N. Y.	Aug. 15	Dirt track event.
Elgin, Ill.	Aug. 22-23	Road race.
Sheepshead Bay, N. Y.	Aug. 23	Speedway.
Uniontown, Pa.	Sept. 1	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	Speedway.
*Allentown, Pa.	Sept. 27	Dirt track event.
Cincinnati, O.	Oct. 1	Speedway.
*Trenton, N. J.	Oct. 4	Dirt track event.
*Danbury, Conn.	Oct. 11	Dirt track event.

\*Tentative dates.

### Meetings and Outings

Washington, D. C.	June 3-6	Pan-American Commercial Conference, Pan-American Union Bldg.
Newark, N. J.	May 21	Spring Golf Tournament, Shackamaxon Country Club, Westfield. New Jersey Automobile Trade Assn.
Chicago, Ill.	June 2	National Gas Engine Assn., Hotel Sherman.
Hot Springs, Va.	June 2-6	Convention, Automotive Equipment Assns., Homestead Hotel.
Ottawa Beach, Mich.	June 23-27	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 23-25	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

### Passenger Car and Truck Shows

Bristol, Va.-Tenn.	May 10-17	Cars, Trucks, Tractors, Airplanes and Accessories. Bristol Chamber of Commerce. C. W. Roberts, Manager.
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### Foreign Shows

Paris, France	Oct. 15	Grand Palais—International Automobile Manufacturers' Congress.
London, England	November	Olympia—International Automobile Manufacturers' Congress.

### Aeronautical Exhibition

Atlantic City, N. J.	May 1-June 1	Second Pan-American Aeronautic Convention and Exhibition.
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### Tractor Demonstrations

College Park, Md.	May 30	Power Cultivator Demonstration, Maryland State Department of Agriculture.
Denver, Col.	June 8-14	Sectional Tractor Demonstrations. Denver Tractor Club.
Wichita, Kan.	July 14	Automotive Committee of National Implement Assn.
Aberdeen, S. D.	August 18-22	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	Inter-Provincial Plowing Match and Tractor Demonstration.

### Exhibits

Venezuela, S. A.	May 15-June 1	National Exhibit of Venezuela.
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### New York Offices for Willys

TOLEDO, May 10—Permanent offices of President John N. Willys, of the Willys-Overland Co., have been opened at 1710 Vanderbilt-Concourse Building, New York. Mr. Willys expects to remain in New York most of the time directing the affairs of the Overland and allied companies.

### Timken Bearings and Spiral Timing Gears on Fords

DETROIT, May 10—The Ford Motor Co. is now supplying Timken roller bearings to Ford dealers to replace the ball bearings in the front wheels. The introduction of these bearings came with the detachable wheels, and this bearing is made interchangeable with the old type ball bearing so that dealers or owners can make the replacement without changing any other parts.

The spiral timing gears which were incorporated into the design of the engine at the time the electric starting and lighting system was placed on the en-

closed models have now been made standard on all the cars. For the time being, straight spur gears can be obtained from dealer and branch stocks for replacement purposes, but as soon as these stocks are exhausted it will be necessary to replace both gears with the new spiral design if one of the gears needs replacement. The spiral gears are coming through the factory regularly.

### New Chicago Autocar Service Building

CHICAGO, May 10—The newest of the large establishments in Chicago combining truck sales and service is the factory branch building of the Autocar company. This is a three-story building, especially designed for this service, and gives 63,000 sq. ft. of floor space. Provision is made for two additional floors when demanded.

The first floor is taken up with a showroom, executive offices and a garage. On the second floor is a storage space, which enables the Autocar company to keep a stock of trucks to assure quick delivery to buyers. The repairshop, blacksmith

and parts department are on the top floor. The whole layout has been arranged to give quick and efficient service. The trucks come into the first floor for preliminary inspection and minor adjustment, and when more work is required two elevators carry the trucks to the third floor, where there is equipment for complete rebuilding.

### Newark Starts New Year

NEWARK, N. J., May 10—Having chosen officers and "got set" for another year, the New Jersey Automobile Trade Association will resume the series of get-together meetings held with so much mutual profit during the year just ended. The first session will be held the evening of May 15, at which time David Becroft, directing editor of the Class Journal papers, will give a stereopticon talk on his three months' trip through Europe about the time hostilities ended.

### Reading Dealers to Organize

READING, PA., May 10—Application has been made for a charter for the Reading Automobile Trade Association. Subscribers to the petition are: H. O. Koller, H. B. Schwartz, E. S. Youse, Lewis T. Ganster, Lewis O. Rothmel, Howard Melchoir and A. N. Kline. They are the directors for the first year. The petition states that the yearly income of the corporation from other sources than real estate shall not exceed \$5,000, which is to be derived principally from admission fees and members' fees. Any individual engaged in the automobile trade or affiliated industries is eligible for membership.

### Changes in Allen Personnel

COLUMBUS, May 10—As a part of the reorganization plan of the Allen Motor Co., incidental to its removal to Columbus from Fostoria, R. G. Ewell, formerly advertising manager of the company, has been made general manager of sales and advertising, and Homer McKee has been retained as sales and advertising counsel. J. F. Richman, formerly general production manager of the Cole company, has been placed in charge of production of the Allen company.

### Business Good at Springfield

SPRINGFIELD, May 10—The motor dealers of Springfield cannot get enough cars. New agencies are being placed, indicating that the dealers have confidence in the future. R. A. McKee of the Massachusetts Motors has taken the agency for the Standard Eight. Joseph L. Finkel has added the Studebaker to his list, and the Parmenter-Graves company has taken the Saxon. R. M. Sauers, who has the Federal truck agency for Hampshire, Hampden and Franklin counties, has branched out and added Worcester County to his territory. E. B. Wilson, branch manager for the Willys-Overland here, has been promoted to take charge of the company's big branch at Los Angeles.



# Farm Tractors

ABBREVIATIONS:—"W" Who "C" Crawler "Dr" Drum, "G" Gasoline "K" Kerosene "D" Distillate. Flow capacity varies in relation to operating conditions. Figures are based on 14 in. plows.

ABBREVIATIONS:—"W" Who "C" Crawler "Dr" Drum, "G" Gasoline "K" Kerosene "D" Distillate.



# Trucks

Name and Model	Tons Capacity	End Stroke	TIRES		Final Drive	Name and Model	Tons Capacity	End Stroke	TIRES		Final Drive	Name and Model	Tons Capacity	End Stroke	TIRES		Final Drive			
			F.	R.					F.	R.					F.	R.				
A & B	3T	4-11 1/2	48x3 1/2	48x3 1/2	W	Concord	A 1 1/2	2500	4-11 1/2	36x5	36x5	W	Gairford	708	2	3800	4-11 1/2	36x4	36x7	W
A & B	5T	4-11 1/2	48x3 1/2	48x3 1/2	W	Concord	B 2 1/2	3000	4-11 1/2	36x4	36x4	W	Gairford	77C	3 1/2	4900	4-11 1/2	36x5	40x6 1/2	W
Acme	R 1	2180	36x5	36x5	W	Concord	11	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	R 2	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 1	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 2	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 3	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 4	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 5	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 6	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 7	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 8	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 9	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 10	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 11	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 12	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 13	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 14	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 15	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 16	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 17	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 18	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 19	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 20	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 21	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 22	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 23	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 24	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 25	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 26	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 27	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 28	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 29	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 30	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 31	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 32	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 33	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 34	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 35	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 36	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 37	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 38	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 39	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 40	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 41	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 42	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 43	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 44	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 45	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 46	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 47	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 48	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 49	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 50	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 51	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 52	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 53	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 54	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 55	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 56	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 57	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 58	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 59	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 60	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 61	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 62	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 63	2180	36x5	36x5	W	Concord	22	1800	4-11 1/2	31x4	31x4	solid	Gairford	68	6	5000	4-11 1/2	36x6	40x7 1/2	C
Acme	H 64	2180	36x5																	



Name and Model	Type	Capacity	Cylinder	Tires	F.	R.	Name and Model	Type	Capacity	Cylinder	Tires	F.	R.
Standard	1	1005	4-31x5	34x4	34x4	34x4	Standard	1	1005	4-31x5	34x4	34x4	34x4
Standard	2	1005	4-31x5	34x4	34x4	34x4	Standard	2	1005	4-31x5	34x4	34x4	34x4
Standard	3	1005	4-31x5	34x4	34x4	34x4	Standard	3	1005	4-31x5	34x4	34x4	34x4
Standard	4	1005	4-31x5	34x4	34x4	34x4	Standard	4	1005	4-31x5	34x4	34x4	34x4
Standard	5	1005	4-31x5	34x4	34x4	34x4	Standard	5	1005	4-31x5	34x4	34x4	34x4
Standard	6	1005	4-31x5	34x4	34x4	34x4	Standard	6	1005	4-31x5	34x4	34x4	34x4
Standard	7	1005	4-31x5	34x4	34x4	34x4	Standard	7	1005	4-31x5	34x4	34x4	34x4
Standard	8	1005	4-31x5	34x4	34x4	34x4	Standard	8	1005	4-31x5	34x4	34x4	34x4
Standard	9	1005	4-31x5	34x4	34x4	34x4	Standard	9	1005	4-31x5	34x4	34x4	34x4
Standard	10	1005	4-31x5	34x4	34x4	34x4	Standard	10	1005	4-31x5	34x4	34x4	34x4
Standard	11	1005	4-31x5	34x4	34x4	34x4	Standard	11	1005	4-31x5	34x4	34x4	34x4
Standard	12	1005	4-31x5	34x4	34x4	34x4	Standard	12	1005	4-31x5	34x4	34x4	34x4
Standard	13	1005	4-31x5	34x4	34x4	34x4	Standard	13	1005	4-31x5	34x4	34x4	34x4
Standard	14	1005	4-31x5	34x4	34x4	34x4	Standard	14	1005	4-31x5	34x4	34x4	34x4
Standard	15	1005	4-31x5	34x4	34x4	34x4	Standard	15	1005	4-31x5	34x4	34x4	34x4
Standard	16	1005	4-31x5	34x4	34x4	34x4	Standard	16	1005	4-31x5	34x4	34x4	34x4
Standard	17	1005	4-31x5	34x4	34x4	34x4	Standard	17	1005	4-31x5	34x4	34x4	34x4
Standard	18	1005	4-31x5	34x4	34x4	34x4	Standard	18	1005	4-31x5	34x4	34x4	34x4
Standard	19	1005	4-31x5	34x4	34x4	34x4	Standard	19	1005	4-31x5	34x4	34x4	34x4
Standard	20	1005	4-31x5	34x4	34x4	34x4	Standard	20	1005	4-31x5	34x4	34x4	34x4
Standard	21	1005	4-31x5	34x4	34x4	34x4	Standard	21	1005	4-31x5	34x4	34x4	34x4
Standard	22	1005	4-31x5	34x4	34x4	34x4	Standard	22	1005	4-31x5	34x4	34x4	34x4
Standard	23	1005	4-31x5	34x4	34x4	34x4	Standard	23	1005	4-31x5	34x4	34x4	34x4
Standard	24	1005	4-31x5	34x4	34x4	34x4	Standard	24	1005	4-31x5	34x4	34x4	34x4
Standard	25	1005	4-31x5	34x4	34x4	34x4	Standard	25	1005	4-31x5	34x4	34x4	34x4
Standard	26	1005	4-31x5	34x4	34x4	34x4	Standard	26	1005	4-31x5	34x4	34x4	34x4
Standard	27	1005	4-31x5	34x4	34x4	34x4	Standard	27	1005	4-31x5	34x4	34x4	34x4
Standard	28	1005	4-31x5	34x4	34x4	34x4	Standard	28	1005	4-31x5	34x4	34x4	34x4
Standard	29	1005	4-31x5	34x4	34x4	34x4	Standard	29	1005	4-31x5	34x4	34x4	34x4
Standard	30	1005	4-31x5	34x4	34x4	34x4	Standard	30	1005	4-31x5	34x4	34x4	34x4
Standard	31	1005	4-31x5	34x4	34x4	34x4	Standard	31	1005	4-31x5	34x4	34x4	34x4
Standard	32	1005	4-31x5	34x4	34x4	34x4	Standard	32	1005	4-31x5	34x4	34x4	34x4
Standard	33	1005	4-31x5	34x4	34x4	34x4	Standard	33	1005	4-31x5	34x4	34x4	34x4
Standard	34	1005	4-31x5	34x4	34x4	34x4	Standard	34	1005	4-31x5	34x4	34x4	34x4
Standard	35	1005	4-31x5	34x4	34x4	34x4	Standard	35	1005	4-31x5	34x4	34x4	34x4
Standard	36	1005	4-31x5	34x4	34x4	34x4	Standard	36	1005	4-31x5	34x4	34x4	34x4
Standard	37	1005	4-31x5	34x4	34x4	34x4	Standard	37	1005	4-31x5	34x4	34x4	34x4
Standard	38	1005	4-31x5	34x4	34x4	34x4	Standard	38	1005	4-31x5	34x4	34x4	34x4
Standard	39	1005	4-31x5	34x4	34x4	34x4	Standard	39	1005	4-31x5	34x4	34x4	34x4
Standard	40	1005	4-31x5	34x4	34x4	34x4	Standard	40	1005	4-31x5	34x4	34x4	34x4
Standard	41	1005	4-31x5	34x4	34x4	34x4	Standard	41	1005	4-31x5	34x4	34x4	34x4
Standard	42	1005	4-31x5	34x4	34x4	34x4	Standard	42	1005	4-31x5	34x4	34x4	34x4
Standard	43	1005	4-31x5	34x4	34x4	34x4	Standard	43	1005	4-31x5	34x4	34x4	34x4
Standard	44	1005	4-31x5	34x4	34x4	34x4	Standard	44	1005	4-31x5	34x4	34x4	34x4
Standard	45	1005	4-31x5	34x4	34x4	34x4	Standard	45	1005	4-31x5	34x4	34x4	34x4
Standard	46	1005	4-31x5	34x4	34x4	34x4	Standard	46	1005	4-31x5	34x4	34x4	34x4
Standard	47	1005	4-31x5	34x4	34x4	34x4	Standard	47	1005	4-31x5	34x4	34x4	34x4
Standard	48	1005	4-31x5	34x4	34x4	34x4	Standard	48	1005	4-31x5	34x4	34x4	34x4
Standard	49	1005	4-31x5	34x4	34x4	34x4	Standard	49	1005	4-31x5	34x4	34x4	34x4
Standard	50	1005	4-31x5	34x4	34x4	34x4	Standard	50	1005	4-31x5	34x4	34x4	34x4
Standard	51	1005	4-31x5	34x4	34x4	34x4	Standard	51	1005	4-31x5	34x4	34x4	34x4
Standard	52	1005	4-31x5	34x4	34x4	34x4	Standard	52	1005	4-31x5	34x4	34x4	34x4
Standard	53	1005	4-31x5	34x4	34x4	34x4	Standard	53	1005	4-31x5	34x4	34x4	34x4
Standard	54	1005	4-31x5	34x4	34x4	34x4	Standard	54	1005	4-31x5	34x4	34x4	34x4
Standard	55	1005	4-31x5	34x4	34x4	34x4	Standard	55	1005	4-31x5	34x4	34x4	34x4
Standard	56	1005	4-31x5	34x4	34x4	34x4	Standard	56	1005	4-31x5	34x4	34x4	34x4
Standard	57	1005	4-31x5	34x4	34x4	34x4	Standard	57	1005	4-31x5	34x4	34x4	34x4
Standard	58	1005	4-31x5	34x4	34x4	34x4	Standard	58	1005	4-31x5	34x4	34x4	34x4
Standard	59	1005	4-31x5	34x4	34x4	34x4	Standard	59	1005	4-31x5	34x4	34x4	34x4
Standard	60	1005	4-31x5	34x4	34x4	34x4	Standard	60	1005	4-31x5	34x4	34x4	34x4
Standard	61	1005	4-31x5	34x4	34x4	34x4	Standard	61	1005	4-31x5	34x4	34x4	34x4
Standard	62	1005	4-31x5	34x4	34x4	34x4	Standard	62	1005	4-31x5	34x4	34x4	34x4
Standard	63	1005	4-31x5	34x4	34x4	34x4	Standard	63	1005	4-31x5	34x4	34x4	34x4
Standard	64	1005	4-31x5	34x4	34x4	34x4	Standard	64	1005	4-31x5	34x4	34x4	34x4
Standard	65	1005	4-31x5	34x4	34x4	34x4	Standard	65	1005	4-31x5	34x4	34x4	34x4
Standard	66	1005	4-31x5	34x4	34x4	34x4	Standard	66	1005	4-31x5	34x4	34x4	34x4
Standard	67	1005	4-31x5	34x4	34x4	34x4	Standard	67	1005	4-31x5	34x4	34x4	34x4
Standard	68	1005	4-31x5	34x4	34x4	34x4	Standard	68	1005	4-31x5	34x4	34x4	34x4
Standard	69	1005	4-31x5	34x4	34x4	34x4	Standard	69	1005	4-31x5	34x4	34x4	34x4
Standard	70	1005	4-31x5	34x4	34x4	34x4	Standard	70	1005	4-31x5	34x4	34x4	34x4
Standard	71	1005	4-31x5	34x4	34x4	34x4	Standard	71	1005	4-31x5	34x4	34x4	34x4
Standard	72	1005	4-31x5	34x4	34x4	34x4	Standard	72	1005	4-31x5	34x4	34x4	34x4
Standard	73	1005	4-31x5	34x4	34x4	34x4	Standard	73	1005	4-31x5	34x4	34x4	34x4
Standard	74	1005	4-31x5	34x4	34x4	34x4	Standard	74	1005	4-31x5	34x4	34x4	34x4
Standard	75	1005	4-31x5	34x4	34x4	34x4	Standard	75	1005	4-31x5	34x4	34x4	34x4
Standard	76	1005	4-31x5	34x4	34x4	34x4	Standard	76	1005	4-31x5	34x4	34x4	34x4
Standard	77	1005	4-31x5	34x4	34x4	34x4	Standard	77	1005	4-31x5	34x4	34x4	34x4
Standard	78	1005	4-31x5	34x4	34x4	34x4	Standard	78	1005	4-31x5	34x4	34x4	34x4
Standard	79	1005	4-31x5	34x4	34x4	34x4	Standard	79	1005	4-31x5	34x4	34x4	34x4
Standard	80	1005	4-31x5	34x4	34x4	34x4	Standard	80	1005	4-31x5	34x4	34x4	34x4
Standard	81	1005	4-31x5	34x4	34x4	34x4	Standard	81	1005	4-31x5	34x4	34x4	34x4
Standard	82	1005	4-31x5	34x4	34x4	34x4	Standard	82	1005	4-31x5	34x4	34x4	34x4
Standard	83	1005	4-31x5	34x4	34x4	34x4	Standard	83	1005	4-31x5	34x4	34x4	34x4
Standard	84	1005	4-31x5	34x4	34x4	34x4	Standard	84	1005	4-31x5	34x4	34x4	34x4
Standard	85	1005	4-31x5	34x4	34x4	34x4	Standard	85	1005	4-31x5	34x4	34x4	34x4
Standard	86	1005	4-31x5	34x4	34x4	34x4	Standard	86	1005	4-31x5	34x4	34x4	34x4
Standard	87	1005	4-31x5	34x4	34x4	34x4	Standard	87	1005	4-31x5	34x4	34x4	34x4
Standard	88	1005	4-31x5	34x4	34x4	34x4	Standard	88	1005	4-31x5	34x4	34x4	34x4
Standard	89	1005	4-31x5	34x4	34x4	34x4	Standard	89	1005	4-31x5	34x4	34x4	34x4
Standard	90	1005	4-31x5	34x4	34x4	34x4	Standard	90	1005	4-31x5	34x4	34x4	34x4
Standard	91	1005	4-31x5	34x4	34x4	34x4	Standard	91	1005	4-31x5	34x4	34x4	34x4
Standard	92	1005	4-31x5	34x4	34x4	34x4	Standard	92	1005	4-31x5	34x4	34x4	34x4
Standard	93	1005	4-31x5	34x4	34x4	34x4	Standard	93	1005	4-31x5	34x4	34x4	34x4
Standard	94	1005	4-31x5	34x4	34x4	34x4	Standard	94	1005	4-31x5	34x4	34x4	34x4
Standard	95	1005	4-31x5	34x4	34x4	34x4	Standard	95	1005	4-31x5	34x4	34x4	34x4
Standard	96	1005	4-31x5	34x4	34x4	34x4	Standard	96	1005	4-31x5	34x4	34x4	34x4
Standard	97	1005	4-31x5	34x4	34x4	34x4	Standard	97	1005	4-31x5	34x4	34x4	34x4
Standard	98	1005	4-31x5	34x4	34x4	34x4	Standard	98	1005	4-31x5	34x4	34x4	34x4
Standard	99	1005	4-31x5	34x4	34x4	34x4	Standard	99	1005</				

## MERCHANDISING SPECIFICATIONS

**THE** tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.

Final Drive: W—Worm, I—Internal-Gear, C—Chains, D—Double Reduction, B—Bevel, 4—Four-Wheel



Passenger  
Cars

## MOTOR WORLD GUIDE

Passenger  
Cars

Model	Motor	Ignition	Starting Lighting	WB	Tires	2- Rims	Pass.	5- Pass.	7- Pass.	Model	Motor	Ignition	Starting Lighting	WB	Tires	2- Rims	Pass.	5- Pass.	7- Pass.
ALLEN Series 41	4-31x5 Conn	A-Lite	112	32x4 SS	...	...	\$1195	...	\$1895	FRANKLIN 9B	6-31x4 A-Kent	Dyneto	115	32x4 SS	...	...	\$2400	\$2450	\$3350
AMERICAN B	6-31x5 A-Kent	West	122	32x4 SS	...	...	\$1585	1765	\$1865	GRANT G	6-3 x4 Remy	Wagner	114	32x4 SS	...	...	1120	1120	...
AMERICAN BEAUTY	6-31x5 G&D	G&D	121	32x4 SS	...	...	2070	...	...	HARROUN A-1	6-31x4 A-Kent	Remy	106	30x4 SS	...	...	1095	995	...
ANDERSON 400-A-E	6-31x4 Conn	Webb	120	32x4 SS	...	...	1775	...	...	HAYNES 45	6-31x5 Remy	L-N	127	34x4 SS	...	...	12485	2485	3350
APPERSON 6-30	6-31x5 Remy	Bijur	120	34x4 SS	...	...	4000	...	6000	4	12-31x5 Delco	L-N	127	34x4 SS	...	...	13250	3250	4000
AUBURN 6-30-B-K	6-31x4 Remy	Remy	120	32x4 SS	...	...	11595	1895	...	HOLLIER 206	6-31x4 Remy	Spalding	114	32x4 SS	...	...	1795	...	...
BELL	4-31x4 A-Kent	Dyneto	114	31x4 QD	...	...	1145	1145	...	HOLMES	6-31-41 Esmann	Dyneto	126	34x4 SS	...	...	...	2000	3900
BIDDLE H	4-32x4 Esmann	G & D	121	32x4 QD	...	...	12750	3900	...	HUDSON Super-4	6-31x5 Delco	Webb	125	34x4 SS	...	...	12075	1075	2775
BRISCOE B-24	4-31x4 Conn	A-Lite	104	30x4 C	...	...	895	895	...	HUPMOBILE R	6-31x4 A-Kent	Webb	112	32x4 SS	...	...	1335	1335	...
BUICK H-4-4-47	6-31x4 Delco	Delco	118	32x4 SS	...	...	1495	1495	2195	JONES 28	6-31x5 Remy	Webb	126	34x4 SS	...	...	12350	2100	...
H-4-4-48	6-31x4 Delco	Delco	124	34x4 SS	...	...	...	1795	2395	JORDAN 1-40	6-31x4 Delco	Bijur	127	32x4 SS	...	...	12475	2475	3500
CADILLAC 57	8-31x6 Delco	Delco	125	34x5 SS	...	...	3230	12220	3220	KING G	8-3 x5 A-Kent	Bijur	120	34x4 SS	...	...	2550	2150	3100
CASE U	6-31x5 Webb	Webb	125	34x4 SS	...	...	12100	...	3100	KISSEL K&R Custom Built	6-31x4 Remy	Remy	124	32x4 SS	...	...	...	...	...
CHALMERS 6-30	6-31x4 Remy	A-Lite	117	32x4 SS	...	...	1565	1565	2250	KLINE K&R 6-42 H	6-31x4 Conn	Webb	121	32x4 SS	...	...	1845	1845	2690
CHANDLER	6-31x5 Bosch	Webb	125	34x4 SS	...	...	11795	...	1795	LEXINGTON R-19	6-31x4 Conn	Webb	122	34x4 SS	...	...	1785	1785	2750
CHEVROLET 400	4-31x4 Remy	A-Lite	102	30x4 C	...	...	715	725	1185	LOCOMOBILE 28	6-31x4 A-Kent	Wagner	115	32x4 SS	...	...	1670	1720	2640
FB	4-31x4 Remy	A-Lite	110	32x4 SS	...	...	1110	1125	1635	36	6-31x5 Berling	Webb	126	32x5 QD	...	...	15700	5500	5500
D	6-31x4 Remy	A-Lite	120	34x4 SS	...	...	1895	...	1635	40	6-41x5 Berling	Webb	142	32x5 QD	...	...	16700	6000	6000
COLUMBIA D-C&C	6-31x4 Delco	Delco	127	32x5 SS	...	...	2595	12695	3595	MAIDMOM B	6-31x5 Remy	Remy	115	32x4 SS	...	...	1550	...	...
COMET	4-31x4 A-Kent	Ward	116	32x4 SS	...	...	11745	1600	2445	MARMON 34	6-31x4 A-Kent	Wagner	116	32x4 SS	...	...	1900	...	1890
CROW-ELKHART	4-31x4 Dees	Dyneto	125	32x4 SS	...	...	1685	...	...	MAXWELL 25	6-31x4 A-Kent	Bijur	136	32x4 QD	...	...	1990	3000	3550
CE-48	6-31x5 Conn	Dyneto	115	32x4 SS	...	...	1095	1095	1445	MCGARLAN 6-41x4 A-Kent	Simms	109	30x4 C	...	...	895	895	1645	
CUNNINGHAM V-2	6-31x5 Delco	Webb	122	32x5 SS	...	...	1295	1295	1245	MERCER Series 4	6-41x4 Bosch	Webb	136	32x5 QD	...	...	4900	14500	4900
DANIELS B	6-31x5 Delco	Webb	127	34x4 QDR	...	...	12950	4750	4250	MITCHELL E-40	6-31x4 Berling	Webb	132	32x4 QD	...	...	4250	14500	4500
DAVE H-1	6-31x4 Delco	Delco	119	34x4 SS	...	...	11595	1595	5500	E-43	6-31x5 Remy	Remy	120	34x4 SS	...	...	11775	1275	2175
DISPATCH	6-31x4 Delco	Delco	124	34x4 QD	...	...	12650	2650	...	E-43	6-31x5 Remy	Remy	127	34x4 SS	...	...	...	1675	...
DUKE FLYER	4-31x5 Bosch	UEL	120	34x4 SS	...	...	11290	11290	...	L	4-31x5 Conn	A-Lite	118	34x4 SS	...	...	12000	2000	2500
DOGG BROTHERS	4-31x5 Conn	Dyneto	112	32x4 SS	...	...	1095	1095	1450	G	4-31x5 Conn	A-Lite	122	34x4 SS	...	...	12500	2500	2500
DODGE	4-31x4 Oyn	N.E.	114	32x4 SS	...	...	1095	1095	1760	MONITOR	6-31x4 Dyneto	...	117	32x4 SS	...	...	1475	...	11475
DORRIS	6-4 x5 Bosch	Webb	125	34x5 SS	...	...	7750	7750	4615	MOON	21x4 Delco	Delco	118	32x4 SS	...	...	1685	1685	...
DOET	4-31x5 Conn	Webb	105	30x4 QD	...	...	1995	995	1355	6-46-19	6-31x5 Delco	Delco	126	32x4 SS	...	...	12500	2500	3350
EUCAR	4-31x5 A-Kent	Dyneto	116	32x4 SS	...	...	11775	11775	1725	MOORE	4-31x4 Conn	A-Lite	106	30x4 SS	...	...	...	895	...
D.F.	6-31x4 A-Kent	Dyneto	116	32x4 SS	...	...	1376	1376	1895	MURRAY	6-31x5 Delco	Webb	128	34x4 SS	...	...	2000	2000	...
ELGIN	6-31x4 Wagner	Wagner	118	32x4 SS	...	...	1395	...	1900	NASH	6-31x5 Delco	Delco	127	34x4 SS	...	...	1640	...	...
ERICK	4-31x5 Delco	Delco	108	32x4 SS	...	...	1395	...	...	681-6	10-31x5 Delco	Delco	121	34x4 SS	...	...	11490	1490	11595
FORD	4-31x4 Oyn	...	100	30x4 C	...	...	500	525	775	694	10-31x5 Delco	Delco	121	34x4 SS	...	...	...	...	2250

ABBREVIATIONS: "A-Kent" Alton Kent, "A-Lite" Auto-Lite, "Conn" Connecticut, "G & D" Gray & Davis, "Esmann" Esmann, "L-N" Leese-Neville, "N.E." North-East, "Webb" Westinghouse, "W. Ward" Ward Leonard, "SS" Straight Side, "QD" Quick Detachable, "C" Collector, "QDR" Quick Detachable Removable. NOTE: "QD" means that the rear tire is 80x4 and the front are smaller.



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Volume LX  
Number 8

PUBLISHED WEEKLY AT 34 WEST 34th STREET  
NEW YORK, N.Y.

Copy  
Year

## Hudson Dealers Are Prosperous Super-Six Brings Profits

Hudson dealers sell more fine cars than any other dealers in the world. Their stores are among the finest. Everywhere they are growing more prosperous daily.

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Production of Super-Sixes has never been able to keep pace with demand. The Hudson is ever expanding. Hundreds of thousands of dollars' worth of machinery for increasing output has been installed this year.

To take care of our rapid expansion we will add to our dealer force some new organizations. There will be \$12,000,000 in profits to be divided among our dealers this year.

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**Hudson Motor Car Company**  
Detroit, Michigan

(F)





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*f. o. b. Kenosha*

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Including the Famous Nash Quad*

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# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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## Editorial Contents

Men You Will Meet at Hot Springs.....	10
First of Four Tractor Stories.....	8
When You Come to New York.....	14
Departmentize.....	16
How a British Dealer Came Back.....	17
How to Train Employees.....	18
Your Price Is Too High.....	20
Better Mechanics Department.....	21
Shooting Troubles.....	23
How to Equip a Trouble Kit.....	23
Scientific Garage Construction.....	24
Editorial Observation.....	26
Letters from Readers.....	27
Automotive Equipment.....	29
The Retail News.....	31
Repairshop Shortcuts.....	32
Legal Department.....	34
Specifications.....	45
Coming Events.....	44
Regular News Department.....	35

Advertisers Index on Pages 150-151

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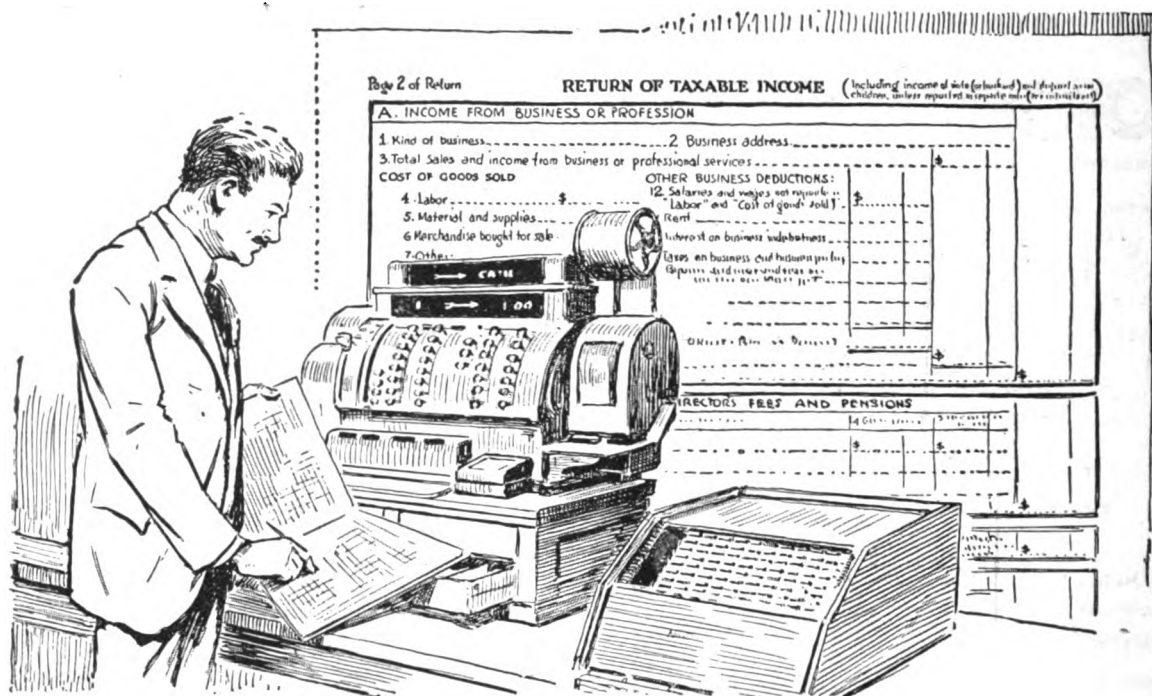
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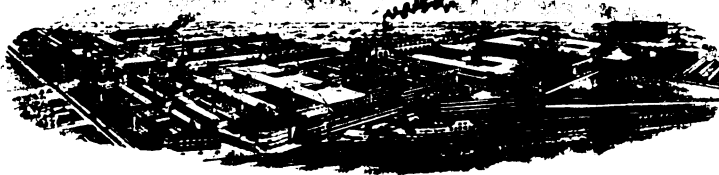
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March 27, 1919.

Motor World,  
New York.

Gentlemen:

Having given up my Vryheid business and taken over the managership here I would be obliged if you will please send my copies of MOTOR WORLD to me at the above address. And please do not forget to inform me in time when another subscription is due.

I take in several motor papers, but would willingly forego the entire lot sooner than miss your publication.

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Boston

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## AUTOMOBILE STARTING LIGHTING AND LAMPS



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

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No. 8

## Departmentized





"NOW let's give the tractor a chance," says Butler. "Crowd the money spent on your automobile motor in 5 years into 4 months and how does it look? Get ready to spend as much money or more on your tractor motor every season. Measure your motor in revolutions, not years, and everyone will be satisfied."

That is the theme of this first article. The others in the series will be:

2—Let's Have a Humane Society for Tractors.

3—Expect Less and Get More From Your Tractor.

4—Make Tractor Care a Habit.

# Every Day

## You Drive Your

### Tractor 240 "Car Miles"

By C. L. Butler

#### THE FIRST OF FOUR ARTICLES

*On Tractor Selling, by C. L. Butler, president of Butler-Veitch, Inc., Oakland, Cal., distributor of Fageol products*

**T**RACTOR manufacturers and users must face cold facts. If the truth won't sell the tractor it is better not sold. If facts won't run them, neither will fiction.

The life of a gasoline motor is measured in revolutions, not years. In the mind of almost every man in the country the gasoline motor has become so associated with the automobile that he thinks of the two in the same terms. He measures the life of an automobile, and consequently his gasoline motor, in years. It is vital that the mind of the public, and particularly that of the farmer, be made to distinguish between years and revolutions if the tractor is to become a real factor on the farm.

#### Must Satisfy Farmer

The farmer must be satisfied with his purchase—otherwise horses will continue to eat our bread. The man who expects too much of his tractor—or his wife—is doomed to disappointment. As long as the farmer is oversold on the tractor, either in his own mind or by salesmen, there is trouble ahead. Let's not kid ourselves. If the man selling—yes, and even building the tractor, does not know the facts, what chance for the farmer? The task ahead of the tractor man is to bring the facts to light—and these facts must be honestly presented. Fooling the public with sales eloquence will not give the tractor man a bank balance.

The motor in an automobile and a tractor is fundamentally the same, but motors are measured by the work they do—not the company they keep. The life

in motors of equally good design and material is mainly determined by the number of times the crankshaft revolves. Factors influencing the motor's life in revolutions are the character of the load or strain under which it operates and the conditions under which it is lubricated. Both these latter factors are greatly in the favor of the motor in an automobile.

The load under which an automobile motor revolves varies greatly, and is generally very light, probably under normal average conditions, year in and year out, not more than 40 per cent of its rated capacity. Stop to consider how long a motor lasts in a racing car where it works at probably 90 per cent. The tractor motor operates under constant continued dead pull of about 75 per cent of its capacity.

#### Car Has the Advantage

Lubrication in an automobile motor also has points of advantage over a tractor. First, the speed of the car tends to cool the oil in the crankcase, and secondly, the dust and dirt factor is almost negligible. Grit in oil makes excellent emery, and the moving parts, such as the pistons in the cylinder or bearings on the crankshaft, wear themselves away in short order. The field conditions under

## WHY

### This Story Was Written

**E**DITOR Motor World: We have followed with interest the three articles by Clyde Jennings: "Why the Man Who Is Going to Sell Tractors Should Know Them," "Why the Man Who Is Selling Tractors Should Know Them," and "Why the Man Who Has Sold Tractors Should Know Them."

We know every man who is selling farm tractors will benefit by reading these articles. We have, and we are making it a point to see that this series of stories is read by each of our dealers.

However, no matter how well informed or how capable the dealer may be, the greatest problem is still to pass on a portion of his information to the purchaser. We have found that practically all of recent tractor troubles can be traced to lack of tractor education on the part of the user. The dealer may be directly responsible for this, but in an effort to aid him in this educational work, we have prepared the enclosed articles.

We believe they may help other dealers as they have helped ours, and with this in view are submitting them to Motor World with the hope that they may be of some use in the near future. Very truly, Butler-Veitch, Oakland, Cal., Lloyd Veitch.



which tractors operate are such as to cause, in spite of all precaution, a great deal more dirt to reach the oil than gets to that in an automobile, which travels over surfaced roads. And even when in dust the speed of the automobile gets past it before the dust can enter the vital parts. The answer, then, to the lubrication problem is attention. The operator of a tractor must keep the oil clean. Whether it is necessary to drain the crankcase and refill with fresh oil once a week or once a day is dependent on the operating conditions, but whether or not it is once a day the oil must be kept clean in a tractor motor. These two things are not the principal factors—they are merely handicaps. Remember them, however, in passing judgment.

Lubrication and character of load are only factors. Work done in revolutions is the real measure. Get these facts and a new respect for the motor in your tractor.

In the average automobile the motor revolves 2300 times to the mile.

In the average tractor the motor revolves 34,000 times to the mile.

The ratio of revolutions of the motor's tractor to automobile is 15 to 1.

This means that every time you drive your tractor one mile your automobile would have to cover 15 miles to do the same work. During a season of 120 days a tractor will average about 8 hours a day in operation, at a speed of at least 2 miles an hour, or an average distance of 16 miles a day. This is equal to 240 miles a day in an automobile. A day's work with a tractor calls for more revolutions of its motor than a trip from San Francisco to Fresno in an automobile—from San Francisco to Los Angeles every two days. That would be 27,000 miles every four months. The life of an automobile is figured at five years, and the average automobile travels less than 5000 miles a year. The average tractor, then, does more work in four months than the automobile in five years. Con-

sideration of that fact inspires a new respect for a tractor motor.

We all know automobiles. I use one—a good one, famous for speed on the track and stamina across the continent. It costs over \$2000. It has been about 20,000 miles in the last two years. It has been driven farther and probably faster than the average—but not so hard nor so fast as the motor in a tractor.

It has had good care. Yet to-day there is over ten thousandths play in the pistons—more than twice too much—and the valves have been ground at least six times, and the main bearings on the crankshaft have been scraped in once, and the connecting rod bearings are all either new or have been refitted, and the wrist pins in three or four of the pistons are now oversized, and there are some new rings on the pistons—leak proof to keep some of the oil down in the case—and countless little ignition, spark plug, carbureter, water pump, generator, etc., etc., adjustments and repairs. Oh! Yes! I know there are some that run 50,000 miles without ever lifting the hood. That sounds well, but it seldom happens.

Am I disappointed with my car? Not in the least. Has it cost too much to operate? Certainly not. It has had hard service—seen some rough trips. Cost some money to keep it in shape—sure! You can't ride on the train for nothing. My automobile did and is doing all that can be fairly asked of it. The longer it goes the more it costs to keep it going.

Now let's give the tractor a chance. Crowd the money spent on your automobile motor during the last five years into four months, and how does it look? Get ready to spend as much or more on your tractor motor every season. Possibly you run your automobile only a year or two and then get a new one. If so your repair bills are small. If you were to get a new motor for your tractor every month or two, you would be doing as well by it—the proportion of work done is the same. Use your reason

when appraising the value of your tractor motor. You can't bleed blood from a turnip. Don't expect the impossible. Measure your motor in revolutions, not years, and every one will be satisfied.

And the sweet part of it all is that the costs are not prohibitive. Say for example that you operate your tractor 16 miles a day for 120 days. Assume that you have 120 acres which you plow once with a 3 bottom 12 inch plow and cultivate ten times with implements 6 feet wide. Traveling 16 miles a day with 3 12-inch bottoms you would plow 6 acres—cultivating you would cover double that. In the 120 days' operation of the tractor 20 days would be spent plowing and 100 days cultivating your orchard of 120 acres.

Plowing 6 acres a day  $\times$  20 days=120 (over once).

Cultivating 12 acres a day  $\times$  100 days =1200 acres (120 acres ten times over).

Total acreage covered in 120 days at 16 miles a day=1320 acres.

1320 acres at 10 cents per acre=\$132.

One hundred thirty-two dollars intelligently spent on your tractor motor during every four months would keep it in perfect condition and replace it with a new or factory rebuilt one as often as needed. This is, of course, provided the motor is not abused.

The user of a tractor must prepare himself to pay for his tractor work on a basis of work done—not years in service. The manufacturer who assumes responsibility for his machine over a period of time instead of on a basis of work done is a poor risk for a conservative banker.

This fact is beautifully illustrated by the motor of a tractor. Working 8 hours a day, average to travel only 16 miles, the motor revolves 544,000 times or 16,320,000 a month or 65,280,000 times a season of 120 days. It looks like a liberty loan and must be given as careful consideration by all concerned.

Tractor motors must be measured in revolutions—not years.

## More of Those Business-Getting Ideas

### *Cut Telephone Nuisance*

W. S. Allard, proprietor of the Woodlea Garage, Kansas City, found that the use of telephones for casual conversations by chauffeurs in his front office was seriously interfering with the purpose for which the telephones were maintained. He installed extensions in a room set aside for chauffeurs so that owners could call chauffeurs—and a check could be maintained on calls out by chauffeurs.

### *Make 'Em Pay*

A Kansas City garage owner, with a rich clientele, says they have to be watched closer than less wealthy patrons. "They are cheap,"

he said. "They are able to pay, and will pay if one puts the price where it belongs and sticks to the price. We have made up our minds not to be buffaloed into reductions—and are finding that the patrons respect us more for our firmness, since we give them service."

### *That Falling Price Again*

The argument that automobile prices will be lower and the prospect will wait until the decline is easily answered by our sales force. We show him that the price on the four-cylinder line of cars has been advanced \$100 recently, and thus there is no chance in the world to have the price on other models reduced. This is generally efficacious

and many times brings the results desired.—Manager Gilmore, Studebaker Sales Co., Columbus, Ohio.

### *Take Trouble on the Jump*

The best way to convince the farmer of the utility of the tractor—both the farmer you already have sold and the farmer to whom you hope to sell—is to keep the tractors you already have sold constantly efficient for work. When trouble comes hop right to it and shoot it quick. Carry a complete stock of repairs, have a service wagon or truck and competent mechanics, and don't let the grass grow under your feet when you are sent for.—F. Le Cocq., Star Automobile Co., Pella, Iowa, Ford and Fordson.



# MEN YOU WILL MEET

At the Hot Springs Jobbers' Convention, June 2-6

*THESE names are arranged in two lists. In one list will be found the names of representatives of jobbers who will attend the convention. In the other list will be found the names of representatives of manufacturers.*

## JOBBERS.

Andrea & Sons Co., Julius, Milwaukee—F. T. Andrea, Secy.

Automobile Supply Co., Chicago—T. M. Brooks, Prest.

Automobile Supply Co., Kansas City—Otto Wittmann, Prest.

Automobile Supply Co., Tacoma—E. W. Reynolds, Vice-Prest.

Auto Equipment Co., Denver—S. T. McCollum, Prest.

Auto Supply Co., Denver—J. W. Foster, Prest. and Mgr.

Auto Supply Co., Hutchinson, Kan.—A. J. Jackson, Prest.

Baughman Co., G. Norman, Tampa—G. Norman Baughman, Prest. and Gen. Mgr.; Stanley K. Wallace, Purchasing Agent.

Beck & Corbitt Iron Co., St. Louis—J. S. McGaully, Mgr. and Buyer.

Beers Brothers Co., Oil City, Pa.—W. S. Van Horn, Secy.

Berrodin Rubber Co., Philadelphia—F. X. Berrodin, Treas. & Mgr.

Borderland Auto Supply Co., El Paso—B. L. Clements, Prest.

Bowman-Gould Co., Detroit—L. C. Gould, Mgr.

Burwell Supply Co., J. B., Oklahoma City—N. B. Burwell, Vice-Prest.

Cahall Motor Supply Co., Philadelphia—R. J. Cahall, Vice-Prest.

Campbell Auto Supply Co., Fred, St. Louis—Fred Campbell, Prest.

Carolinas Auto Supply House, Charlotte, N. C.—Joseph G. Fitzsimons, Prest. and Gen. Mgr.

Cedar Rapids Pump Co., Cedar Rapids, Iowa—C. H. Schuptrine, Automobile Supply Mgr.

Chanslor & Lyon Co., San Francisco—P. H. Lyon, Secy.

Chicago Automobile Supply House, Chicago—William M. Weber, Prest.

Child, Day & Churchill, Inc., Spokane—G. H. Day, Prest.

Cody Co., W. E., Columbus, Ga.—W. E. Cody, Prest.

Collins Co., E. B., Danville, Ill.—E. B. Collins, Prest.; M. S. Collins, Buyer.

Cooper Rubber Co., I. J., Cincinnati—H. H. Brenner, Gen. Sales Mgr.; A. L. Johnston, Purchasing Agent.

Crump Co., Benjamin T., Richmond, Va.—P. A. Seaton, Secy. and Treas.

Cummings Brothers, Flint—E. M. Cumings, Prest.

Dine-DeWees Co., Canton—H. M. Dine, Prest.

Double Fabric Tire Co., Auburn, Ind.—C. L. Stebbins, Sales Mgr.

Downing Electrical Co., Des Moines—H. C. Downing.

Duluth Auto Supply Co., Duluth—F. W. Berg, Pur. Dept.; W. R. Whiteside, Prest.

Electric Appliance Co., Chicago—W. W. Low, Prest.

Electric Appliance Co., Dallas—Mac F. Starrett, Secy. and Mgr.

Electric Appliance Co., New Orleans—C. Robert Churchill, Prest. and Gen. Mgr.; Roy E. Trask, Mgr. Automotive Equipment Department.

Equipment Co., Kansas City—E. J. Hess, Prest.

Fisk Co. of Texas, Dallas—O. A. Evans, Pur. Agent.

Front-Market Motor Supply Co., Harrisburg—Troy B. Wildermuth, Prest.

Gaul, Derr & Shearer Co., Philadelphia—Franklin P. Gaul, Treas.

Geller, Ward & Hasner Hardware Co., St. Louis—H. J. Hopkins, Director and Buyer.

General Sales Co., Detroit—Nelson J. Clark, Vice-Prest. and Mgr.

Grant Co., J. D., Fargo—J. D. Grant.

Greene Co., C. W., Tampa—C. W. Greene, Prest.

Griswold-Sohl Co., Columbus—Curtis Sohl, Gen. Mgr.

Hatcher Co., A. S., Macon, Ga.—A. S. Hatcher, Prest.

Herring Motor Co., Des Moines—W. E. Wissler, Gen. Mgr.

Hine-Watt Mfg. Co., Chicago—William H. Wilking, Treas.

Hippee States Co., Des Moines—Joseph H. Liston, Gen. Mgr.

Holliday & Co., W. J., Indianapolis—C. E. Tuttle, Secy.

Interstate Electric Co., New Orleans—Perceval Stern, Prest. and Gen. Mgr.

Jackson Motor Supply Co., Pittsburgh—C. E. Jackson, Prest.

Johnstown Automobile Co., Johnstown—George L. Brown, Sales Mgr.

Korsmeyer Co., Lincoln, Neb.—L. W. Korsmeyer, Vice-Prest.

Lockwood-Ash Motor Co., Jackson—A. L. Lockwood, Prest.

Lowe Motor Supplies Co., New York—M. Whitelaw, Secy. and Treas.

McCauley-Ward Motor Supply Co., Waco, Tex.—C. O. McCauley, Prest. and Mgr.

McCoy Motor Supply Co., Los Angeles—Henry D. McCoy, Prest.

McCullough & Son, J. H., Philadelphia—George L. Fischer, Mgr.

M & M Co., Cleveland—W. B. Davis, Prest. Minneapolis Iron Store Co., Minneapolis—J. M. McClure, Buyer.

Missouri Auto Specialty Co., St. Louis—L. E. Allmon, Prest.

Motor Car Supply Co., Chicago—Sidney F. Beech, Prest.

Motor Equipment Co., Chicago—D. Rosenbach, Prest.

Motor Hardware & Equipment Co., San Diego—George W. Calton, Prest. and Mgr.

National E & A Supply Co., Peoria—Theo. Bass, Prest.

Nebraska Buick Auto Co., Lincoln—C. L. Carper, Mgr.

Nevada Auto Supply Co., Reno, Nev.—H. F. Holmshaw.

Northwestern Auto Supply Co., Billings, Mont.—E. C. Guthard, Gen. Mgr.

Nicols, Dean & Gregg, St. Paul—Sidney B. Dean, Sec.

Ohio Rubber Co., Cincinnati—L. F. Vollmer, Mgr.

Ozburn-Abston & Co., Memphis—N. Field Ozburn, Dunbar Abston.

Pennsylvania Rubber & Supply Co., Cleveland—J. C. Hipp, Prest.; H. G. Smith, Treas.

Piedmont Hardware Co., Danville, Va.—Spencer James.

Picard & Co., Inc., A. J., New York—A. J. Picard, Prest.; R. A. Picard, Vice-Prest.; J. J. Grace, Purchasing Agent.

Powell Supply Co., Omaha—Clarke G. Powell, Prest.

Providence Auto Equipment Co., Inc., Providence—Francis F. Kellogg, Mgr. and Treas.

Remick Co., James S., Sacramento—James S. Remick, Prest.

Repass Automobile Co., Waterloo—C. A. Clark, Vice-Prest.

Roberts Electric Supply Co., H. C., Syracuse—H. I. McConnell, Mgr.

Roberts Toledo Auto Co., Toledo—Stanley Roberts, Prest.

Rubel & Co., Charles, Washington, D. C.—Charles Rubel, Prest.

Shadbolt & Boyd Iron Co., Milwaukee—D. M. Davis, Second Vice-Prest.; F. Hamilton Suter, Mgr.

Shattuck George Iron Co., Wichita—F. W. George, Prest.

Shuler Auto Supply Co., Inc., New Orleans—A. H. Borden.

Sieg Company, Davenport, Iowa—R. F. Englehart, Treas. and Gen. Mgr.

Southern Auto Supply Co., Chattanooga—D. A. Graves, Secy. and Treas.



Southwick Auto Supply Co., Topeka—F. S. Southwick.

Talman Auto Supply Co., Inc., Richmond—R. W. Payne, Prest.

Tenk Hardware Co., Quincy, Ill.—F. J. Tenk, Vice-Prest.; A. P. Nesta, Buyer.

Toledo Rubber Co., Toledo—E. C. Deardorff, Prest.

Waite Auto Supply Co., Providence—E. D. Waite, Pur. and Mgr.

Warnock-Wirth Co., Sioux City—William Warnock, Prest.

Weinstock-Nichols Co., San Francisco—Robert Weinstock, Gen. Mgr.

Western Automobile Supply Co., Omaha—E. A. Pegau, Prest. and Gen. Mgr.

Western Motor Supply Co., Minneapolis—C. J. Parker, Secy. and Treas.

Whittemore-Sim Co., New York—Louis R. Whittemore, Pres. and Treas.

Whiton Hardware Co., Seattle—Fred F. Hawks, Treas.

Williams Hardware Co., Minneapolis—Charles R. Williams, Prest.

Wood Co., W. C., Minneapolis—W. C. Wood, Prest.; R. L. Bartholomew, Sales Mgr.

York Supply Co., Greenville, Ohio—Charles F. York, Prest.

#### CANADA

Canadian Fairbanks-Morse Co., Ltd., Montreal—A. J. Hopkins.

Cutten & Foster, Toronto—L. F. Cutten, Vice-Prest.; W. L. Moncur, Mgr.

Hyslop Brothers, Ltd., Toronto—George M. MacWilliam, Gen. Mgr.; Cecil Dixon, Sales Mgr.

Millen & Son, John, Montreal—J. Ernest Millen, Prest. and Managing Director.

Northern Electric Co., Montreal—M. S. Allen, Sales Mgr.; L. H. Bartholomew, Buyer Automotive Equipment Sales.

Western Motor Supplies, Ltd., Regina, Sask.—William Ellis, Mgr.

## MANUFACTURERS

Albertson & Co., Sioux City, Iowa—H. A. Jacobson, Secy.

American Ever Ready Works, Long Island City—L. H. Keller, Gen. Sales Mgr.; H. B. Ramey, Sales Mgr. Storage Battery Div.

Allen Auto Specialty Co., New York—William A. Allen, Prest.; Richard A. Crooker, Sales Mgr.

Apco Mfg. Co., Providence—T. F. Wilson, Prest. and Treas.

Atwater Kent Mfg. Works, Philadelphia—H. E. Rice, Sales Mgr.; H. R. Carlisle, Mgr. Replacement Sales.

Auto Compressor Co., Wilmington, Ohio—J. W. Lawhead, Prest.; J. C. Griffiths, Sales Mgr.; R. O'Keefe, Rep.; A. H. Kilburn, Rep.

Badger Mfg. Corp., Milwaukee—C. H. Hathaway, Prest.; H. D. Wakefield, Salesman.

Bonney Vise & Tool Works, Inc., Allentown, Pa.—F. S. Durham, Vice-Prest. and Treas.

Brunner Mfg. Co., Utica, N. Y.—George L. Brunner, Treas. and Gen. Mgr.; J. H. Mehan, Sales Mgr.

Burd High Compression Ring Co., Rockford, Ill.—O. P. Hand, Prest.

Cassidy Co., E. A., New York—Edward A. Cassidy, Prest.; Gregory Flynn, Vice-Prest.; Lawrence M. Lloyd, Director of Advertising.

Central Brass & Fixture Co., Springfield, Ohio—P. P. Crabill, Prest.; James Turner, Gen. Mgr.

Champion Spark Plug Co., Toledo—R. A. Stranahan, Prest.; F. D. Stranahan, Treas.; F. B. Caswell, Sales Mgr.; H. L. Corey, Adv. Mgr.

Chicago Fuse Mfg. Co., Chicago—Arthur S. Merrill, Sales Mgr.; Walter O. Roach, Eastern Sales Mgr.

Columbus Varnish Co., Columbus—S. W. Hanna, Vice-Prest.

Connecticut Telephone & Electric Co., Meriden—C. E. Stahl, Asst. Gen. Mgr.; W. J. Johnston, Field Mgr. of Sales.

Continental Piston Ring Co., Memphis—E. T. Lindsey, Prest. and Gen. Mgr., or Louis Emrich, Assist. Gen. Mgr.

Cooper Mfg. Co., Marshalltown, Iowa—H. M. Cooper, Secy.-Treas.

Corcoran-Victor Co., Cincinnati—T. H. Caruthers, Secy. and Treas.; E. A. Bissonette, Sales Rep.; W. W. Earley, Sales Rep.

Corning Glass Works, New York—Irving B. Cary, Mgr. Conaphore Div.

Crescent Tool Co., Jamestown, N. Y.—C. R. Swisshelm, Sales Mgr.

Curtis Pneumatic Machy. Co., St. Louis—W. C. Hecker, Vice-Prest. and Sales Mgr.

Davies-Young Soap Co., Dayton—H. H. Heidbrink, Sales Mgr.

Dayton Wire Wheel Co., Dayton—William E. Laidlaw, Sales Mgr.

Disco Electric Mfg. Co., Detroit—Harry F. Prescott, Sales Mgr.

E. A. Laboratories, Inc., Brooklyn—W. Von Elm, Secy.

Edelmann & Co., E., Chicago—Ehrich Edelmann, Prest.

Edison Lamp Works, Harrison—C. M. Bunnell, in charge of Automobile Lamp Sales, Edison Lamp Wks.; J. H. Vogt, Rep. Automobile Lamp Sales, Chicago District.

Firestone Tire & Rubber Co., Akron—H. P. McWilliams, Brownie Carslake, C. H. Gerhold, Mgr.

Fulton Co., Milwaukee—S. A. Fulton, Prest. and Treas.; E. L. Worcester, Southern Sales Mgr.

Gates Rubber Co., Denver—J. H. Crary, Jr., Mgr. Sundries Dept.; H. C. Farran, Factory Rep.; N. Mattingly, Factory Rep.; Edward J. Teadell, Sales Mgr. Jobbing Div.

Gemco Mfg. Co., Milwaukee—Grant F. Discher, Prest.; G. H. Treviranus, Sales Mgr.; F. N. Kintzinger, Northeastern States Rep.; H. E. Taylor, Southern States Rep.; A. A. Lightfoot, Middle West States Rep.

General Asbestos & Rubber Co., Charleston—C. B. Jenkins, Jr., Vice-Prest. and Sales Mgr.; J. T. Jenkins, Secy.; John F. O'Brien, Mgr., New York Branch; J. H. Bricker, Mgr., Pittsburgh Branch; H. L. Parmenter, Mgr., Chicago Branch.

Globe Machine & Stamping Co., Cleveland—W. F. Edwards, Traveling Sales Rep.

Goodrich-Lenhardt Mfg. Co., Philadelphia—Ivan F. Goodrich, Prest.; William F. Edwards, Western Mgr.

Gray & Davis, Inc., Boston—W. B. Moses, Engr.; William Gray, Prest.

H & D Co., Goodland, Ind.—R. W. Romine, Secy.

Halladay Co., L. P., Streator, Ill.—L. P. Halladay, Prest.; W. J. Heineke, Sales Dept.; Dean L. Mabery, Sales Dept.

Haney & Co., J. H., Hastings, Neb.—D. D. Duncan, Asst. Sales Mgr.

Harvey Spring & Forging Co., Racine Junction, Wis.—T. H. Van Horn, Sales Mgr.

Hawthorne Co., Bridgeport—E. A. Hawthorne, Vice-Prest.; E. H. Hawthorne, Secy.; F. C. West, Chicago Rep.

Heinze Co., John O., Springfield, Ohio—R. B. Miller, Gen. Mgr.

Herz & Co., New York—Gustav L. Herz, Vice-Prest.

Hill-Smith Metal Goods Co., Boston—H. Franklin Libby, Kansas City Sales Mgr.

Howe Lamp & Mfg. Co., Chicago—Bert G. Cochrane, Vice-Prest.; H. P. Rhodes, Sales Rep.

Illinois Brass Mfg. Co., Chicago—Frank Parizek, Prest.

Imperial Brass Mfg. Co., Chicago—James T. Greenlee, Mgr. Automotive Parts Div.

J & B Mfg. Co., Pittsfield—George H. Southard, Jr., Treas. and Gen. Mgr.; Floyd A. Knight, Sales Mgr.

Jefferson Electric Mfg. Co., Chicago—A. R. Johnson, Secy. & Sales Mgr.

Jiffy Jack Co., Cleveland—D. C. Kennedy, Sales Mgr.; L. W. Perkins, Gen. Mgr.

Judd & Leland Mfg. Co., Clifton Springs, N. Y.—M. L. Harlem, Salesman.

Klaxon Co., Newark, N. J.—D. A. McConnell, Prest.; Walter P. Coghlan, Secy.

Laminated Shlm Co., Inc., New York—Bradford Darrach, Jr., Gen. Mgr.

Lawson Co., F. H., Cincinnati—J. Arthur Buhr, Secy.

Liberty Accessories Corp., St. Louis—J. C. Stiles, Prest.

Luthy Hydrometer Co., Detroit—J. Edward Ready, Secy. Treas.

McQuay-Norris Mfg. Co., St. Louis—W. K. Norris, Prest.; Charles L. Derrickson, Gen. Rep.; L. A. Safford, Second Vice-Prest.

Manhattan Electrical Supply Co., New York—K. S. Byrd, Sales Mgr.

Marvel Accessories Mfg. Co., Cleveland—S. I. Rose, Prest.

Mayo-Skinner Mfg. Co., Chicago—Franklin Mayo, Secy. and Treas.

Metal Specialties Mfg. Co., Chicago—N. H. Oliver, Gen. Sales Mgr.

Milwaukee Auto Engine & Supply Co., Milwaukee—B. D. Zimmerman, Prest.

Mosler & Co., A. R., Mt. Vernon, N. Y.—J. W. Fischer, Jr., Sales Mgr.

Mossberg Co., Frank, Attleboro—Walter I. Tuttle, Gen. Mgr.; Frank T. Chase, Sales Mgr.; H. E. Ring, Eastern Rep.; E. W. Scott, Middle West Rep.; Frank W. Lynn, Southwest Rep.; John E. Colley and Fred Minnich, Southeast Rep.

Moto-Meter Co., Inc., Long Island City—E. V. Hennecke, Sales Mgr.

Motor Specialties Co., Waltham—F. C. Hersee, Gen. Mgr.; A. Frazer, Sales Mgr.

National Lamp Works, General Electric Co., Chicago—Arthur W. Freund, Gen. Mgr.

National Standard Co., Niles, Mich.—R. W. Smith, Sales Mgr.; E. W. Scott.

Nelson Mfg. Co., E. A., Chicago—Fred J. Radioff, Secy. and Treas.

New Era Spring & Specialty Co., Grand Rapids—William Smalley Daniels, Prest.; Burton Wilson, Eastern Traveling Rep.

Niehoff & Co., Inc., Paul G., Chicago—Conrad E. Niehoff, Secy. and Treas.

Northwestern Chemical Co., Marietta, Ohio—F. R. Hall, Prest. and Gen. Mgr.; V. V. Casey, Southern District Mgr.

Nu-Back Mfg. Co., St. Louis—E. V. Wilkinson, Prest.

Osgood Lens & Supply Co., Chicago—C. W. Price, Sales Mgr.; W. B. McKeand, Mgr.



### Motor World's Representatives

At the Hot Springs meeting of the jobbers *The Class Journal Co.* will be represented by: H. M. Sweetland, president of the company; Ray W. Sherman, editor of *Motor World*; Charles B. Shanks, manager of *Motor World*; and Howard Spohn, special representative.

Packard Electric Co., Warren, Ohio—N. A. Wolcott, Gen. Mgr.; R. W. Skillman, Cable Sales Mgr.; W. F. Parker, Sales Mgr.; J. Ed. Erickson, Sales Mgr., New York Office.

Perkins-Campbell Co., Cincinnati—M. D. Campbell, Secy. and Sales Mgr.; H. Kemmel, Chicago Branch Mgr.; J. P. Mills, New York Branch Mgr.

Piston Ring Co., Muskegon, Mich.—L. F. Iverson, Asst. Sales Mgr.

Pyrene Mfg. Co., New York—Walter Bauer, Prest.; G. P. Rogers, Gen. Sales & Adv. Mgr.

Raybestos Co., Bridgeport—M. F. Judd, Sales Mgr.

Rowe Calk & Chain Co., Plantsville, Conn.—L. B. Powell, Sales Mgr.

Russell Mfg. Co., Middletown, Conn.—L. J. Miley, Mgr. Chicago Office.

S & M Lamp Co., Los Angeles—James R. Shirreffs, Prop.

Sears-Cross Co., Brooklyn—Paul Muller, Secy. and Treas.

Shaler Co., C. A., Waupun, Wis.—Robert B. Dunlap, Sales Mgr.; R. E. Malone, Eastern Rep.

Sharp Spark Plug Co., Cleveland—John F. Johnson, Prest.; W. E. Hooker, Sales Rep.

Sparks—Withington Co., Jackson, Mich.—William Sparks, Vice-Prest. and Gen. Mgr.

Spencer Metal Products Co., Spencer, Ohio—George G. Bouthinon, Gen. Mgr.; John B. Firestone, Treas.; Ben Asch, Sales Rep.

Spittdorf Electrical Co., Newark, N. J.—H. Hucknall, Mgr., Chicago; C. J. Kephart, Mgr., Kansas City; C. C. Munson, Mgr., New York; Jack Hiscok, Adv. Mgr.; H. R. Curtiss, Pacific Coast Mgr.

Sterling Mfg. Co., Cleveland—W. M. Scott, Secy. and Sales Mgr.

Stevens & Co., New York—Louis Schwab.

Sunderland Mfg. Co., Chicago—George Sunderland, Prest.; W. J. Sunderland, Salesman.

Thermoid Rubber Co., Trenton—Robert J. Stokes, Edwin B. Knowles, Sales Mgr.

Tide Water Oil Co., New York—H. S. C. Bacon, Eastern Division Manager; H. J. Guthrie, Mgr. Veedol Dept.; C. W. B. Fisher; F. H. Dickison.

Tingley & Co., Charles O., Rahway, N. J.—William McCollum, Partner.

Tuthill Spring Co., Chicago—D. S. Campbell, Secy.

Van Cleef Brothers, Chicago—Noah Van Cleef.

Victor Mfg. & Gasket Co., Chicago—Paul F. Victor, Secy. Treas.; Abner C. Delson, Sales Mgr.

Voorhees Rubber Mfg. Co., Jersey City—

## Coming! Coming! Coming!

# Save Money in FORD REPAIRING!

## MAKE MORE MONEY ON YOUR SERVICE

*A complete course in Ford repairing will be conducted in the Better Mechanics Department of Motor World. It will show how to*

**OPERATE** with labor-saving methods and machinery. Weeks of time and hundreds of dollars can be saved by the use of modern methods and machinery. Some of this machinery you already have, but many shop operators have found that there are uses for their machinery that they didn't know about. And often the addition of some small tool will make it possible to perform a series of operations in a way that saves time and money. You can't afford to miss this series—and you should preserve it and have it always available for study by your organization. It will put your shop in position to make more profit.

The series, beginning June 4, will take up first the Ford power plant. The major subjects in order are:

I—Ford Power Plant.  
II—Rear assembly.  
III—Front assembly.

IV—Chassis frame and dash.  
V—Body, top and windshield.  
VI—Steering gear.

The Ford Power Plant chapter will be sub-divided as follows:

1—Removing the engine from the car.  
2—Taking down the engine and transmission.  
3—Testing the crankshaft and reabbtting the block.  
4—Burning in the bearings.  
5—Reboring the cylinders.  
6—Aligning connecting rods.  
7—Refacing valve seats and reaming valve-stem guides.  
8—Removing carbon and grinding valves.  
9—Fitting new pistons and piston rings.

10—Overhauling the transmission.  
11—Testing, repairing and overhauling the magneto.  
12—Assembly of engine and transmission.  
13—Testing the engine.  
14—The ignition system.  
15—The Radiator.  
16—Gasoline tank, pipe, strainer, muffler, lamps and equipment.  
17—Replacing the power plant and equipment in the car.

*Coming June 4—Don't Miss the First Story*

## Make Money in 1919

## Make More in 1920

K. B. Spencer, Accessories Sales Mgr.; C. L. Falkenburg, Salesman.

Walden-Worcester, Inc., Worcester—Lyman H. Bellows, Secy.; Leland H. Craig, Mgr. Chicago Office.

Walker Mfg. Co., Racine—W. H. Walker, Vice-Prest.; W. T. Walker, Secy. and Treas.; A. W. Shattuck, Harry E. Smith, J. H. Cooper, Salesman.

Warner-Patterson Co., Chicago—Howard E. Patterson, Gen. Mgr.

Weaver Mfg. Co., Springfield, Ill.—Charles F. Hodgson, Secy.

Weidenhoff Products, Chicago—Joseph and Leslie Weidenhoff, Sales Dept.

Whitehouse-Lecompte Mfg. Co., Newark, N. J.—William S. Holmes, Sales Mgr.

Wire Wheel Corp. of America, Buffalo—W. J. St. Onge, Mgr. Service Dept.; M. W. Bartlett, Eastern Rep.

"X" Laboratories, Boston—Louis J. Stern, Chief Chemist and Mgr. of Sales.

### CANADA

Canadian Lamp & Stamping Co., Ltd., Ford City, Ont.—C. H. Hampton, Prest.

Champion Spark Plug Co. of Canada, Ltd., Windsor—F. B. Caswell, Vice-Prest. and Gen. Dir.

McKinnon Industries Ltd., St. Catharines, Ont.—D. S. Brisbin, Asst. Mgr. of Sales.

Motor Products Corporation, Walkerville, Ont.—H. J. Stoops, Mgr.

Spittdorf Electric Co., Toronto—C. K. Nelson, Mgr.

### Boston Ford Building Turned Back

BOSTON, May 16—The Ford Motor Co., which early in the war gave up its building in Cambridge for use of the government quartermaster department, this week returned to its old home, the army having vacated the building and turned it back to its owner.



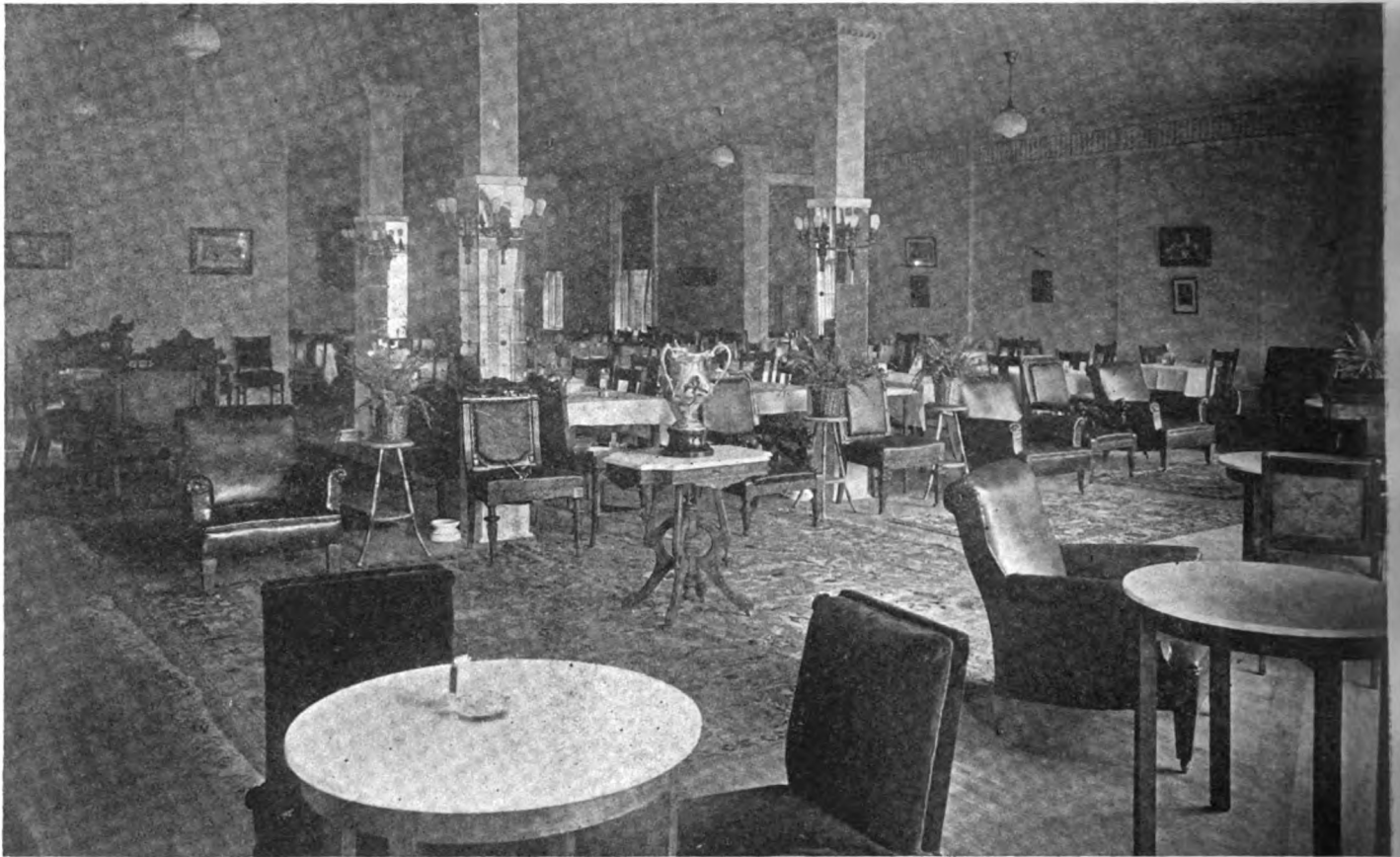
## THE NEW SCHOOL DAYS



*Farmers' sons will go to such schools as Sweeney's and Rahe's and learn tractor mechanics  
(News Item in MOTOR WORLD)*



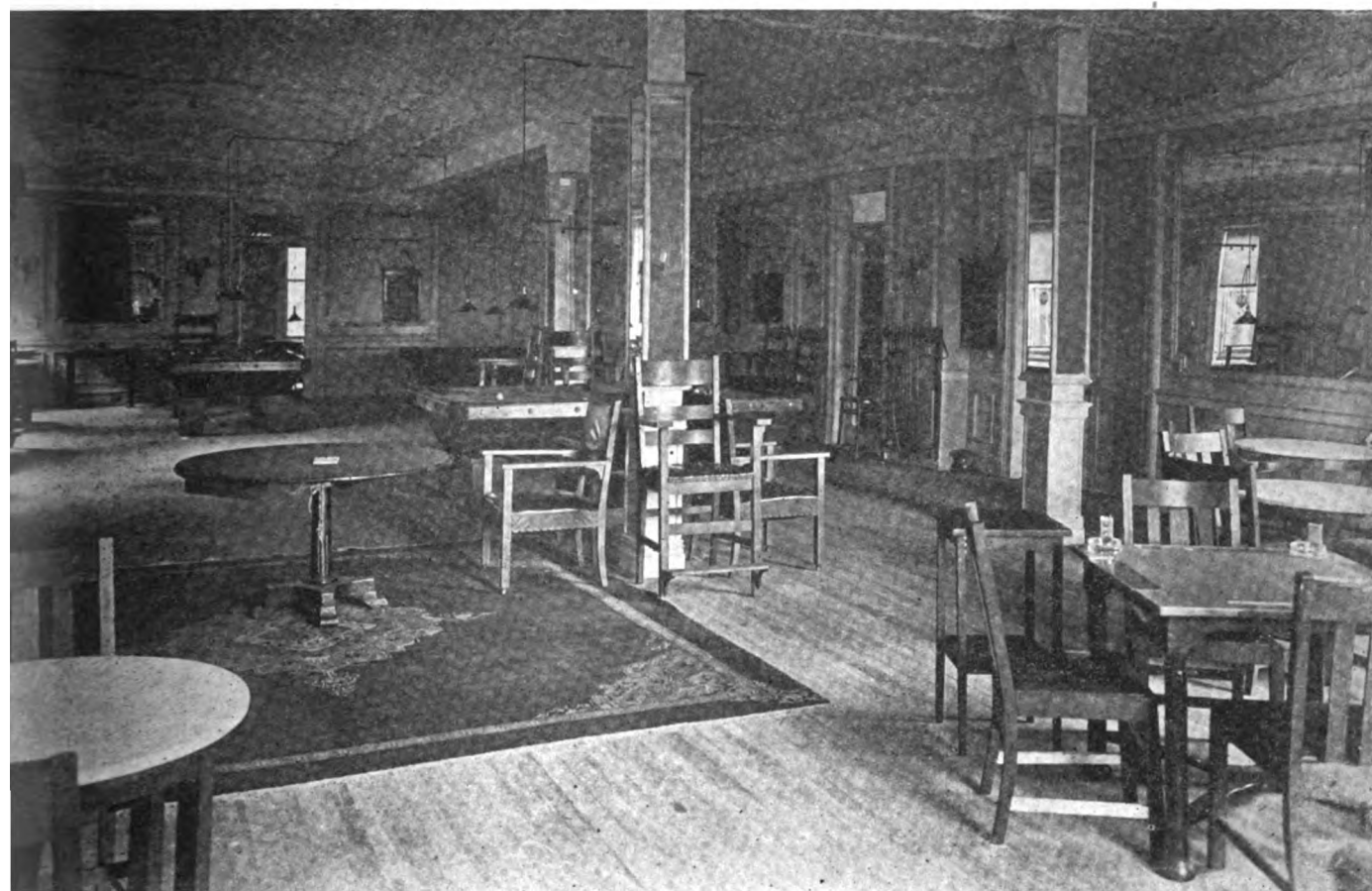
## *When You Come to Old New York*



*For years New York dealers have wanted a real meeting place, and now they have one that is second to none. They on these two pages. Harry Gardner, formerly of Syracuse,*



## *New Home of the New York Dealers*



leased two floors above the Colt-Stratton salesroom at 1845 Broadway and converted them as per the pictures  
cretary, and the latch-string is always hanging out



# DEPARTMENTIZATION

## Brings Forbes a Profit

In the Combined Sale of Cars, Tractors and Farm Light in a Small Illinois Town. Read About How He Does It

**T**HE bigger the line the bigger the profit. But—the business must be organized on a basis of departmentization if maximum profits are to come.

Cars, tractors and farm light are being handled with profit by L. E. Forbes, who operates the Forbes Motor Sales Co. in Clinton, Ill., a rural town of 6000 population.

He sells, Paige cars, Delco Light, and Moline, Plowman, Titan and Samson tractors. He has the work divided. He manages the whole business and roots into each activity as occasion demands.

### Forbes at the Head

At the head stands Forbes himself. He has general supervision over the entire organization, directs the sales and service and himself takes a personal part in the selling of all three of the automotive lines he handles.

In addition to himself he employs one special car salesman who spends all of his time in solicitation. Incidental to his work on cars this man connects with both the tractor and light plant departments, principally through reporting the prospects for either he discovers in the course of his regular

work. He is not expected to take an active part in the sale of anything but cars.

For the conduct of the tractor department Forbes has formed a partnership with Dave Gano. The latter is the leading hardware and implement retailer in Clinton. In addition a special tractor salesman is kept constantly at work soliciting tractor orders. Forbes, the special man, and Gano all sell tractors. The implements which go with the tractors are sold by Gano alone.

Similarly for the farm light department Forbes has formed a partnership with E. Kent & Co., a firm selling electrical equipment. A special light plant salesman also is employed whose whole time is devoted to selling. Forbes and this special man do all the selling of the farm lighting plants.

All wiring, installation, electrical equipment and electrical accessories belong to E. Kent & Co., and with these Forbes has nothing to do, with the exception of pumps and water supply plants. The Kent company does the wiring and renders the necessary service on light plants in return for the privilege of the monopoly on the equipment and accessory trade which follows the introduction of the lighting systems.

Service on cars is delegated in much the same way. Forbes does not operate his own shop, although the shop is in his building, and is run primarily for his benefit. In order to relieve himself of the responsibility of looking after it he rented it, on April 1 last, to three mechanics who were at the time in his employ.

These mechanics pay a small cash rental and render in addition such

free service on cars and tractors as Forbes elects to give. All repair and service work on both cars and tractors, for which a charge is made, belongs to the shop. The bills for such services are rendered through the Forbes Motor Sales Co. office and are collected by the concern on a 10 per cent collection charge basis. Forbes reserves the right to determine arbitrarily whether the service in any particular case shall be free service or shall be charged for.

This shop arrangement covers the service on cars.

In the tractor department a special tractor service man is employed who looks after all tractor troubles and who also assists in making tractor sales.

Service on all farm operative equipment sold with the tractors is rendered by Gano, an experienced farm implement man.

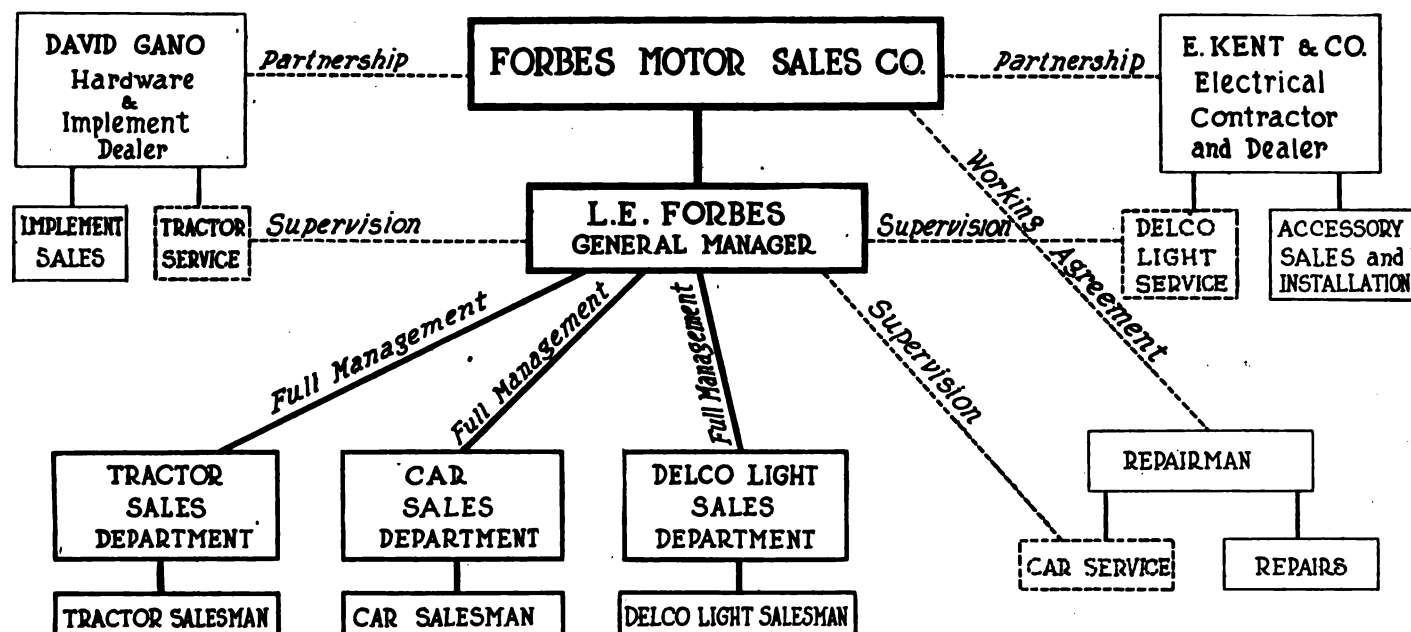
Service on farm lighting plants is rendered by E. Kent & Co., especially equipped to handle it.

### Organization Not Complicated

This plan looks rather complicated, but in reality it is very simple and effective and is working out admirably in practice.

It will be noted in particular that Forbes himself, and the Forbes Motor Sales Co., practically are relieved from direct responsibility in the matter of rendering service by delegating it in every case to factors especially equipped and competent to render it, while at the same time reserving the right to say what service and how much shall be given and whether it shall be free service or service which must be charged for.





Here is the organization chart upon which Forbes operates and the one that has made it possible for him to concentrate his energies

## How a British Dealer Got Back to Business

*Read His Story and Find in It Inspiration That Will Help YOU if You Ever Get Up Against a Hard Situation*

**EDITOR MOTOR WORLD:** I thank you for your letter of Jan. 25, 1919, in which you invite me to write to you and tell you of some of the problems which we are encountering in this country in connection with the distribution of automobiles. I have been meaning to do this for a long time past, but I have been so busy solving the problems that I have not been able to spare the time. I will endeavor to tell you briefly what has happened since the armistice.

My company distributes a well-known British car in a large district in the south of England, and prior to the outbreak of the war did it very successfully. In September, 1914, production stopped, but as I was on active service by this time I was not greatly concerned.

In September, 1917, a meeting of distributors was held, and at their request the factory decided to introduce a light four-cylinder car to sell for about \$1,750 as a post-war model.

On Nov. 11, 1918, I sat down and carefully thought out the position with a view to booking as many orders as I possibly could before all the British manufacturers had formulated their plans. I decided to take every advantage of the fact that the factory I represented was nearer production than any other.

All that I knew about the car was its principal dimensions, and the leading features of the specification, but what I did not know about it was the price it would be marketed at and when deliveries would commence.

I carefully studied the specifications and selected the features which I knew would appeal to the motorist about to purchase a Post-War Model. They were:

Light gasoline consumption.

Entire absence of grease cups.

Suitability of the car to be driven by the owner and cared for by him.

No chauffeur necessary.

I then launched an intensive advertising campaign, and treated every inquiry as something very valuable.

All these inquiries were carefully replied to and a series of follow-up letters posted to each prospect at intervals of one week.

At the same time I wrote to every distributor and manufacturer as a car purchaser and very carefully studied the replies I got. Ninety per cent of these were mere acknowledgments of my inquiry and gave no useful information.

I therefore decided that my letters should give as much news concerning my new model as they could, and the fullest specification possible was inclosed with each one.

This is where I scored.

The public, after spending three years without being able to motor, were car hungry. They wanted a new car at the earliest possible time, but they also wanted some idea of what that car would be like.

My letters told them all about the car, and, because they did this, conveyed the impression that I should be giving earliest deliveries.

As a result, before Christmas I had sold every car that I was likely to receive during 1919.

Every order booked was accompanied by a deposit which I agreed to return at any time upon request. It might be thought that as the order was in no way binding it was valueless, but I calculated that after Mr. Motorist had gone so far as to place an order and give a deposit he would cease to worry about investigating other makes of cars. He had got his name down for a new car, had got it down early, and therefore stood a good chance of getting early delivery. If he cancelled and transferred his order, he would have to wait so much longer before he could resume motoring.

My supposition was correct.

In March of this year, the other distributors and myself were called to the factory to try out the new model and hear the price announced. We went, and found the car a wonderful job in every respect, and one that would almost be a self-seller. But the price!

Instead of \$1,750 as we anticipated, it was \$3,500, owing to the cost of material and the high rates of wages in force. We were informed that the pre-war model which was sold for \$1,425 in 1914 would have to be sold for \$2,500 in 1919 to yield the same profit, so high were the increased production costs.

Naturally this big increase in price had a bad effect on my order list, and 50 per cent of the orders I had accepted

(Continued on page 44)



# HOW TO TRAIN EMPLOYEES

*If You Are to Be a Leader in Your Line and Make Money in 1919, and More in 1920, You Must Become a Leader of Your Men and Women*

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## *You Should Teach Them to:*

- 1—Live Better.
  - 2—Look and Act Better.
  - 3—Know More About Your Business.
  - 4—Know More About Salesmanship.
- 

THE organization consists of men who know how to co-operate to the end of bringing business, and selecting them and training them requires a considerable period of time. Then, one always takes the chance of not being able to replace a capable worker with one as good.

*There are many proprietors of retail businesses who do not realize the importance of a well-trained sales force.* They hire people to fill different positions, give them a few premier instructions, and then expect them to go forward from that point and get results.

This is scarcely fair.

In a large organization the salesmen are under the direct supervision of a sales manager, whose business it is to see that every individual under his charge is helped in every way possible to become more highly trained and more valuable to the house.

The heads of retail businesses are coming to see the wisdom and necessity of training their selling forces. The smaller the force, the more important that the work be done right.

IF A MAN HAS ONLY ONE EMPLOYEE, APPROXIMATELY HALF OF THE SALESMANSHIP WORK WILL FALL UPON HIS ASSOCIATE, AND SO IT IS A VITAL MATTER THAT THE MAN HE HAS HIRED MAKES NO MISTAKES.

If there are twenty employees, the business is divided into smaller fractions, but the proprietor is at the

mercy, as it were, of more people, and so once more he must protect his own interest by training his help.

### Four Branches of Training

IT may seem like a heavy responsibility to attempt the training of clerks and employees, with the idea of introducing them to modern business methods. It may seem also as though this would take time and effort for which small return would be received.

But this is not the case, for as soon as ambitious people are started in the right path, they are eager for improvement and become increasingly more valuable.

On the other hand, if an employee doesn't care to improve and is satisfied to do his work in a way that will permit him to "just get by," there is no encouragement in trying to keep or train him, and the sooner he is put on the toboggan slide the better.

Every employer should be interested to see that his workers are trained in the four grand divisions of Preparedness:

- (1) Hygienic living.
- (2) Personal appearance, manners and speech.
- (3) Instruction in regard to the business itself, its branches of service, the ideals of service, the goal the business is seeking to reach, and the actual policies being carried out.
- (4) Instruction in the fundamental principles of good salesmanship with a special consideration of selling methods adapted to the particular products or goods being handled.

It is not enough to expect that employees will pick up enough of these matters themselves. Some may, but the great majority will not. Then, it is true,

too, that if an employee catches a vision of what he may make of himself and finds he is gaining in his own mental and personal equipment, he will be far more likely to be satisfied to remain on the job and to take an interest in it, than if he is a mere time-saver.

### Concerning Hygienic Living

THE average retail business man is inclined to say to himself, "I haven't time to train my help as to how to eat and sleep, and work and play. They are supposed to be reasonably mature when they come to me, and I have enough to do without starting in at the very beginning with them. Besides, what my help do outside of business hours is no concern of mine!"

*This is not a sound view to take of the matter,* for an employee who lives upon rich, greasy foods; who eats and sleeps irregularly; who lacks a proper balance between work and play; who is out nights, or who is careless about his personal habits, will not be a good investment for the salary list. The term of service of such a person is likely to be short and unsatisfactory, and that is wasteful in the extreme for the business.

How this matter may best be approached depends upon the size of the organization. A co-operative plan is excellent, whereby a dozen or so merchants arrange for classes in instruction, giving employees an opportunity to attend. If this is not possible, it is a relatively simple matter to prepare a pamphlet of instructions or recommendations for employees to follow.

This pamphlet can be printed or it may be typewritten and mimeographed. It should be concise and to the point, and should show how important it is for personal success that every man improve himself, and in order that what he may have to offer for sale to others may be truly valuable.

It is possible, too, for an interested employer to have personal talks with those with whom he is associated, giving a word of praise or suggestion from time to time. It is necessary to give each and every one a vision of what he can make of himself if he is willing to do his part in the upbuilding of the organization.

Group talks of a thoroughly inspirational nature may be held at the employer's home from time to time, with some local athlete, physician, or hygienist giving an address especially suited to the case.



It is remarkable what may be accomplished in the way of establishing the highest ideals as to right living and the development of a strong, sound body. This is important because it takes a healthy, right-living individual to-day to meet the requirements of modern business.

#### Improving the Outward Appearance

NOT long since a business man of wide observation explained the striking success of a retail friend of his, as due in large measure to the attractive force of clerks he had at work. His remark was, "When you go into that place everyone is pleasant, everyone looks prosperous and happy, and you instinctively feel that you are in an atmosphere strictly businesslike, yet friendly, refined and cheery."

THERE IS NO DISGUISED THE FACT THAT CLERKS WHO MURDER THE ENGLISH LANGUAGE, WHO ARE NOT CAREFUL ABOUT THE FRESHNESS OF THEIR LINEN, THE GROOMING OF HAIR, FINGER NAILS AND TEETH, AND WHO DISREGARD THE SMALL COURTESIES OF LIFE, ARE A LIABILITY RATHER THAN AN ASSET. MANY A BUSINESS HAS BEEN SENT INTO BANKRUPTCY THROUGH INDIFFERENT, BOORISH AND UNATTRACTIVE CLERKS.

It is not to be expected that the employer can conduct a class in etiquette, but it is not too much to expect that he will look after his own interests to the point at least of a pamphlet of suggestions, personal talks with individuals, and placing upon his shelves a few books which may be read on this important matter.

One of the ways of encouraging the right atmosphere in one's own organization, is to give an occasional hour, two hours, or an afternoon off to different clerks who are to go out and visit other establishments and bring in a brief, written report of their observations as to manners and methods, as they find them in other establishments. To have this report mean the most, it must be duplicated and a copy given to the rest, or they must be brought together and the report read to them.

Still another way is to have social affairs frequently for the business force—a banquet, a picnic, a social, etc., etc., at which time different ones are given special responsibilities to carry out and to perform properly. All of these things have a direct reaction upon the business itself.

#### The Business Itself

IF an employee is to have a vision of the wonderful opportunities ahead for everyone, and if he is to appreciate the dignity of the task in which he is engaged, he must understand the scope of business as a whole. He must know the important part that the particular line of business in which he is engaged plays, and be proud of what the unit of which he is a part is doing. It is surprising how little some employees know of the work they are doing.

Not long since a young man who was engaged in a retail grocery grumbled

**M**ORE than one Captain of Industry has declared that if his business were destroyed he could soon rebuild and start again. But that if his organization were annihilated or wiped out for any reason, that replacing it would be a much more serious matter.

because he had nothing to handle but butter, lard, lard compound, and edible oils. He said that it was the most uninteresting line in the whole place.

A customer who chanced to hear him stopped to have a little talk with him, telling him that he was mistaken, for it was food that won the war, and moreover fats played an important part; that it was not until the business men of America declared that they would sell no more fodder to Scandinavia and other neutral countries until an agreement was reached, that the fats derived from this fodder would not be shipped into Germany—that the tide of war changed. In fact, a recent writer in a prominent magazine declares, "This one single decision of the American business men in the War Trade Board did more to help defeat Germany than any other one decision made in America."

#### Salesmanship Efficiency

THE young fellow woke up and began to take an interest in what he was doing, and in the far-reaching importance of the staples in his care. He is more valuable to-day than he was a month ago.

It is surely the province of the employer to interest the men who work for him in what they are doing, and to help them to do it well.

The day has gone past when salesmanship is a haphazard matter, or when untrained men can hope to compete with trained men. There is no excuse for lack of training, for there are local schools, clubs and classes, correspondence courses, illuminating books and splendid trade literature in abundance. Anyone who wants to learn can.

The trouble is many employees do not know what they lack, or what there is available with which to help themselves. Here again is where the employer comes in.

Many large industrial concerns pay for courses of study for promising employees. It would seem like a big expense for a manufacturing plant to take out two or three thousand tuitions in a course at a hundred dollars each, but it has been done, and the firm finds it a good investment.

The retail business man may not feel like doing this, but if he has a promising employee he can offer him an advance in salary if he completes a certain course, so as to make himself worth more money, or he can pay for half the course if the employee will pay for the other half, thus making it certain that he will appreciate his opportunity.

Or, he can call his attention to helpful trade literature, asking his opinion on certain books or articles, thus leading the one he would help into the right mental channels to find that help.

The strength of a business organization depends upon the caliber of its men and the morale of the force. Business principals who achieve success make definite, far-ahead plans to build up a strong organization which shall keep pace with and perhaps lead competitors in the field.

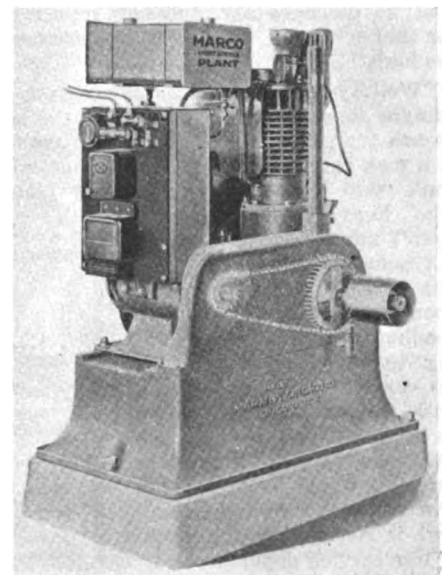
This is merely working out the obvious truth that "what we are interested in, we enjoy doing, and usually learn to do well!"

## Marco Farm Light Plant

THE Marmon Chicago Co., Chicago, is building the Marco electric light plant in unit type. The engine and generator are mounted side by side on the base and the generator is driven by a silent chain. The engine operates at a speed of 800 r.p.m. and the generator runs at 1800 r.p.m.

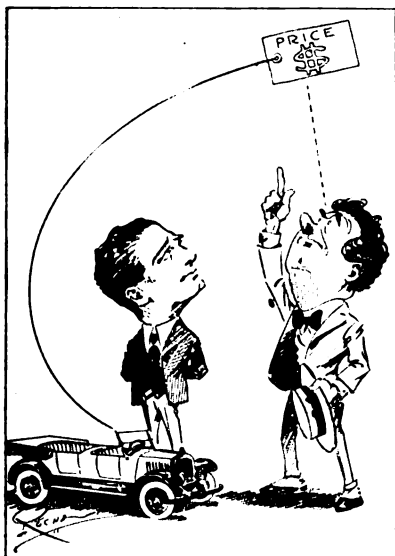
The control unit enables the current to be tapered off as each cell is fully charged, and this automatic reduction of the flow of current takes place independently of the engine speed. If the governor should slip or be incorrectly set, the control unit would prevent overloading of the generator with consequent damage.

Everything, including engine and generator, is mounted on a single compact base. The engine can be removed in a few minutes and mounted on skids or field machinery when necessary. The engine develops 4 hp. and is air-cooled. The generator has a capacity of 1250 watts and will handle an overload of 25 per cent.





## WHAT TO SAY WHEN THE PROSPECT SAYS:



# YOUR PRICE Is Too High

By Ray W. Sherman



## THE FOURTH In Series of Five Car Sales Stories

**L**ATEST suggestion from the sales department on subjects for our sessions on browbeating the prospect."

Tommy Trumbull, sales manager in the house of C. J. Reilly, Inc., dealer in the Sennett car in and about Callawassa, laid on the desk of the boss a brief note from one of the boys. The note said:

"Got a bird who says our price is too high. What shall I do with him?"

"Hu-m-m!" hummed Reilly. "Nice question, isn't it? Of course, the thing to do is sell him a car—if we can. The only problem is how. Outside of that it's as simple as lying abed in the morning."

"The other arguments we figured out," Tommy remarked, "on putting the bee on the lad who is waiting for lower prices, and the fellow who isn't ready to buy yet, and the man who wants a million dollars for his old car, are working out well, so the boys say, and now let's lay for this gent who has an idea our price is too high."

"Well," began Reilly in his usual way, "maybe it is too high. If it is, there is no use trying to sell the car to the man. If a man can't afford to own a Sennett I don't want him to have one. Any man who buys a Sennett and hasn't money enough left to get some insurance, pay for gas and oil and have some spending money left to buy roadhouse dinners isn't going to be very happy with his car, and if he isn't happy with the car he is not going to be a satisfied owner. The only way we could make him satisfied would be to provide him some extra change, and that is not within the scope of our service department."

"You know, Tommy, the satisfaction a man gets with a car is not because of what the car does but because of what the owner thinks it does. If the man buys a car with the thought that he is going to get a lot of enjoyment out of it and then finds he can't get enjoyment out of it he is going to put some of the blame on the car. If we sell a Sennett to a man who should not have paid that much money, he is going to tell his friends the car costs too much to run—and he will be right, and also wrong. It IS too expensive for HIM to operate, but it is an ideal car for the man who can afford to buy it and run it. Also, comparatively, it isn't an expensive car to own or operate."

### Can He Afford a Car?

"Therefore, one of our first jobs is to find whether the man really can afford our car. If we find that he honestly can't afford one, try to sell him a used car, and if he won't fall for that then tell him to buy a new Kenton at a thousand dollars. He'll like you for it and some day he'll come back and get a Sennett and be a satisfied owner."

"That's fine—so far," commented Tommy.

"Very well, then," added Reilly. "We've still got to get to the man who has the money but thinks the price is too high. We can't reduce the price, so the only thing we can do is increase the value of the car, in his mind, by selling him still farther."

### Making Comparisons

"He probably is comparing our car in his mind with other cars which are of about the same size and power but which sell for a little less. Maybe some of these are about as good as ours and somewhat lower in price, but even if this be the case we still must make an effort to make our car seem more valuable to him. He probably never will regret paying the price for it after he has had it a while."

"He probably doesn't understand why the car is better and therefore costs more. For example, ask him to look at the way the doors fit. Have him stand on the side of the car away from the light and look at the doors opposite. In a poorly built car you can often see out through the cracks in the door when the door is closed. But there's nothing like this in a Sennett."

"Take up with him several other of these things that are perfectly obvious, such as the quality of the upholstery, the way it is fastened down along the body rail, the way the hood fits, the way the rims fit, the size and quality of the steering wheel, and a lot of little things that he could have seen for himself if he had known enough to look for them."

"Meantime you should have been giving the man's clothing a good once over."

(Continued on page 44)

### The Five Stories in the Series Are:

- 1—"I'll Wait for Lower Prices"..... (April 30)
- 2—"I'm Not Ready to Buy Yet"..... (May 7)
- 3—"My Old Car Is Worth More".... (Last Week)
- 4—"Your Price Is Too High".... (This Week)
- 5—"Your Competitor Cuts Prices".... (May 28)



A Department of

# BETTER MECHANICS

No. 105

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Nash Quad Steering Gear and Wheels

*Rear Wheels Made to Track with Front Ones  
by Adjustment on Drag Link—Removal of Wheels*

**T**HE Nash Quad has an irreversible steering gear, and the steering device operates on all four wheels. It should be so adjusted that the rear wheels track perfectly with the front ones. If this adjustment has been disturbed for any reason so that the wheels do not track, it can be reset through the steering drag links which connect the steering device with the knuckle arms. To make the adjustment:

1—Loosen the locknut for the adjustable ball socket on the left side.

2—Remove the socket plug on the stationary or right side.

3—Detach the drag link rod from the knuckle arm.

4—Turn the rod in or out as required to make the wheels track properly.

5—Replace the parts as they were.

*Care must be taken not to set the ball-socket adjusting plugs too tight, as this will result in the truck steering hard.*

The adjusting plugs are held in place by cotter pins which fit into the slotted head of the plug.

### End Play in the Steering Post

To take up end play in the steering post:

1—Loosen the steering-gear-shaft locknut.

2—Turn the steering-gear-shaft adjusting screw up far enough to take out the play. Both the screw and the locknut are

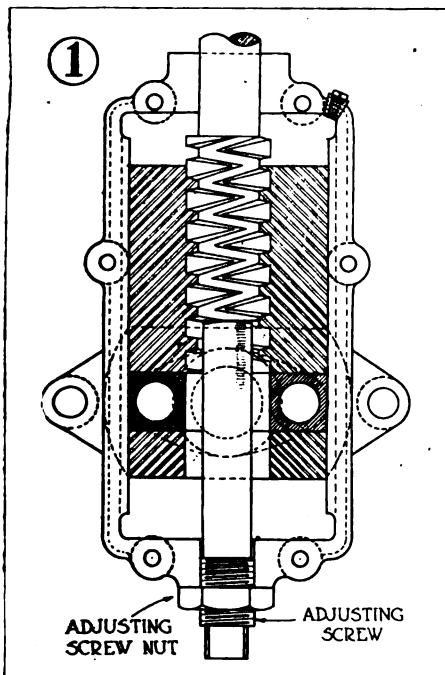
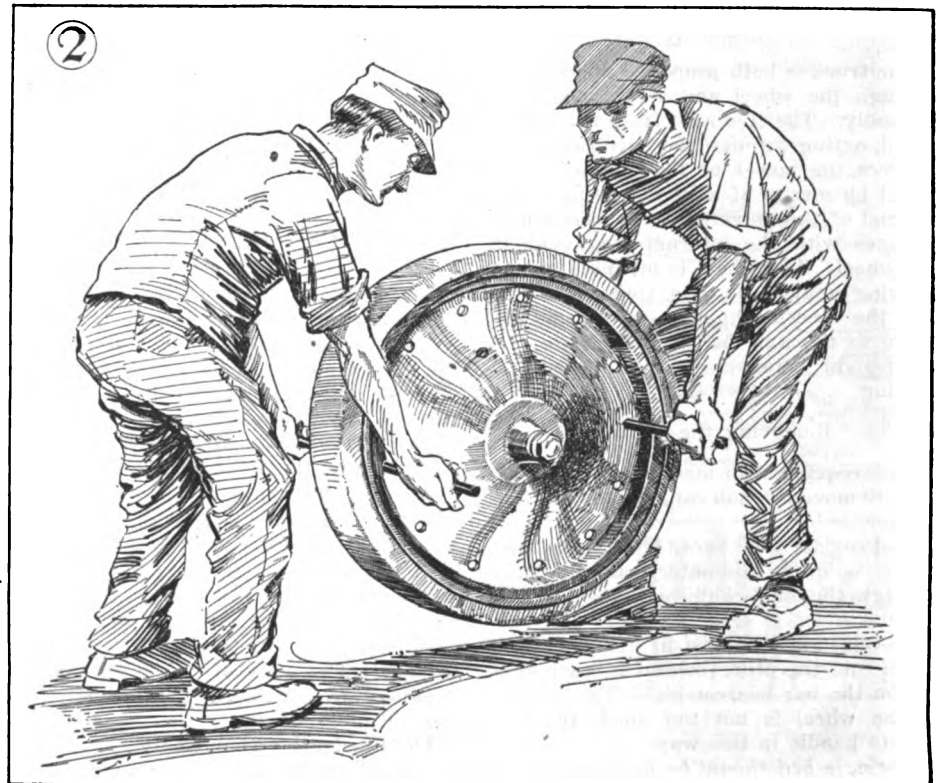


Fig. 1—(Above) Taking the end-play out of the steering post

Fig. 2—(Right) Two men can easily lift off a wheel by this method





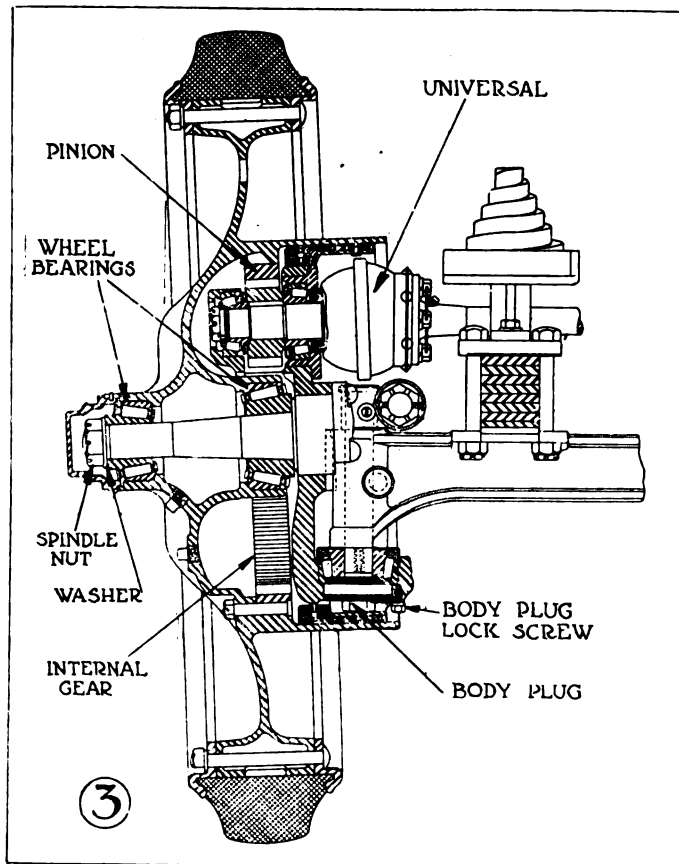


Fig. 3—The wheel and axle assembly, showing details of the mechanism for steering and driving the truck. All four wheels are alike in this respect.

located in the bottom of the steering-gear box and bearing.

3—Tighten the locknut.

If the universal joint of the steering knuckle becomes too loose, the play can be taken up as follows:

1—Remove the four bolts in the universal-joint-housing flange.

2—Remove one of the small shims.

3—Replace the bolts.

#### The Wheel and Steering-Knuckle Assembly

The truck is both propelled and steered through the wheel and steering-knuckle assembly. The live axle from the differential, acting through the universal joint, delivers the power of the engine to the wheel by means of a pinion mounted on the end of the universal-joint yoke which engages with the internal ring gear in the wheel. The wheel is mounted on the steering spindle on two roller bearings and the steering-knuckle spindle is secured to the axle bed by a knuckle pin, the weight being carried on a pedestal bearing.

#### Removing the Wheel

This requires two men.

1—Remove the hub cap, spindle nut and washer.

2—Provide two bars, 2 ft. long and about  $\frac{3}{4}$  in. in diameter. Insert these through the mud-chain-bolt holes in the wheel.

3—One man stands in front of the wheel and the other behind it, each lifting on the bar nearest him. The weight of the wheel is not too much for two men to handle in this way.

*The axle bed should be firmly mounted*

*on jacks or blocks capable of withstanding the weight of the truck.*

Before replacing the wheel:

4—Clean the internal-gear chamber thoroughly with kerosene, freeing it from all oil, grease and dirt.

5—Wash the bearings with kerosene.  
6—Lubricate the ring gear and bearings.

7—If new felts have been inserted in the packing retainers, place a piece of tin or strap iron around the felts so as to decrease their diameter and thus permit the brake drums of the wheels to pass over them.

8—Replace the wheel on the spindle.

9—Tighten the wheel bearings firmly then release one turn to give the necessary freedom to the bearings. If the bearings are too tight, breakage is liable to result.

#### Removing Steering-Knuckle Pin

1—Remove steering-knuckle-body-plug lock screw.

2—Remove knuckle-body plug.

3—Insert a bolt (3 in. long,  $\frac{3}{8}$  in. diameter, 18 threads) in the threaded hole in the lower end of the knuckle pin. By inserting a fork or wrench over the head of this bolt and gently tapping downward, the knuckle pin is withdrawn from the axle bed and the removal of the knuckle is completed.

4—If the pin has rusted in place, a more complete disassembly than called for in operation No. 3 will be necessary.

5—Remove the spring and axle shaft.

6—Remove the wheel-universal joint from the knuckle body.

7—Remove the small knuckle-pin cap.

8—Place a small brass rod in the upper end of the knuckle pin and drive this downward.

9—Adjustment of the bearing is by means of shims between the axle bed and the upper pin bearing in the knuckle body.

## SHOOTING TROUBLES

When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues

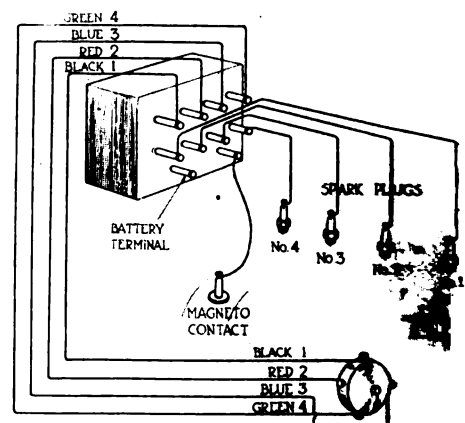
#### How the High-Tension is Grounded on the Ford

Editor Motor World: How is the high-tension current grounded on the Ford ignition system? I know the current from the magneto goes to the coil box and the other wire goes through the timer and back to the coil box, making a complete circuit of the low tension current.—Roopville Garage, Roopville, Ga.

Answer—The high-tension current in the Ford ignition system is grounded through the low-tension wires from the coils to the timer. In other words, these wires from the coils to the timer are carrying two separate currents at the same time, the low tension and the high tension. The ends of the high tension windings are grounded to these wires in the coil units.

The illustration shows only so much of the Ford wiring as is concerned in the

present discussion. Starting from the magneto terminal, a wire goes to the magneto terminal on the coil box, the



High-tension ground on the Ford



right one looking at it from the front of the car. This magneto current is sent to all the coil units through the spring contacts on the units and it might be said that the magneto current is "in" the low tension windings at all times and is ready to flow as soon as a complete circuit is made by touching the other end of the low tension winding to the ground. This is done at the proper time by the

timer and as the high tension winding is grounded to the wires that go to the timer, the secondary circuit is completed at the same time.

Your statement that the current goes back to the coil box again is incorrect as there are only four wires to the timer and each of these is connected to one of the coil terminals at one end and to one of the insulated segments of the timer at

the other, so that the only thing that happens when the roller in the timer makes contact is that the current is allowed to flow from the low tension windings in the coils to the ground and so complete the circuit.

The high tension could be just as well grounded to the magneto terminal wire but the coils of the magneto would offer a little more resistance.—Editor.

## How to Equip a Trouble Man's Repair Kit

*The Old Motto, "A Place for Everything and Everything in Its Place," Is the Basis of the Design*

**T**HE trouble man's repair kit should have in it all the tools that he needs for all the different jobs he will be called upon to perform, but there should be an elimination of all useless junk and duplication of tools. When the trouble man is called upon to leave the shop, his kit should be in such shape that all he has to do is to grab the bag and go, knowing that he has everything that he needs. The kit described here is designed so that every tool has a place and it is supposed to stay in that place until needed outside. The tools are not intended for shop use and should never be taken out and spread around the shop.

The actual tools that will be included in the kit can only be decided on when the character of the trouble work is determined. Different cars require different tools, and the variations should be taken into account.

A good size for the bag is  $\frac{1}{4}$  or  $\frac{1}{2}$  size leatherboard suitcase. This is fitted with wooden trays which will easily drop into the case. The bottom piece of each tray is made of  $\frac{3}{16}$ -in. hard maple and the thickness of the top piece depends on the size of the tools and the handles which the particular tray is designed to hold. The grain of the top and bottom

pieces should be crossed to give additional strength.

The average case will allow the use of four trays deep and a full equipment for almost any work can be carried.

The tools should be arranged in groups in each tray. After selecting the tools

that will be necessary, they are arranged conveniently on the top or thicker part of each tray, placing similar tools together. Their outlines are then drawn on the wood with a pencil and the wood cut entirely away to allow the tools to lie flush. The bottom piece is then glued on and further fastened by wire brads.

The buttons which hold the tools in place are made of sheet brass screwed to the top piece and made so that they turn easily yet retain the tools in the spaces.

The beauty of the equipment is that when on the job, the trays can be taken from the case and arranged conveniently around the work. Every tool will be in plain sight and can be quickly reached. When the job is finished, it is easy to tell whether the man has all his tools, as the empty spaces will quickly tell the tale.

The general kit arrangement is:

Cover—Hammers strapped in.

Top tray—Solid-end wrenches.

Second tray—Solid-end wrenches.

Third tray—Screwdrivers and punches.

Fourth tray—Bearing scrapers, oil-stone, Prussian blue.

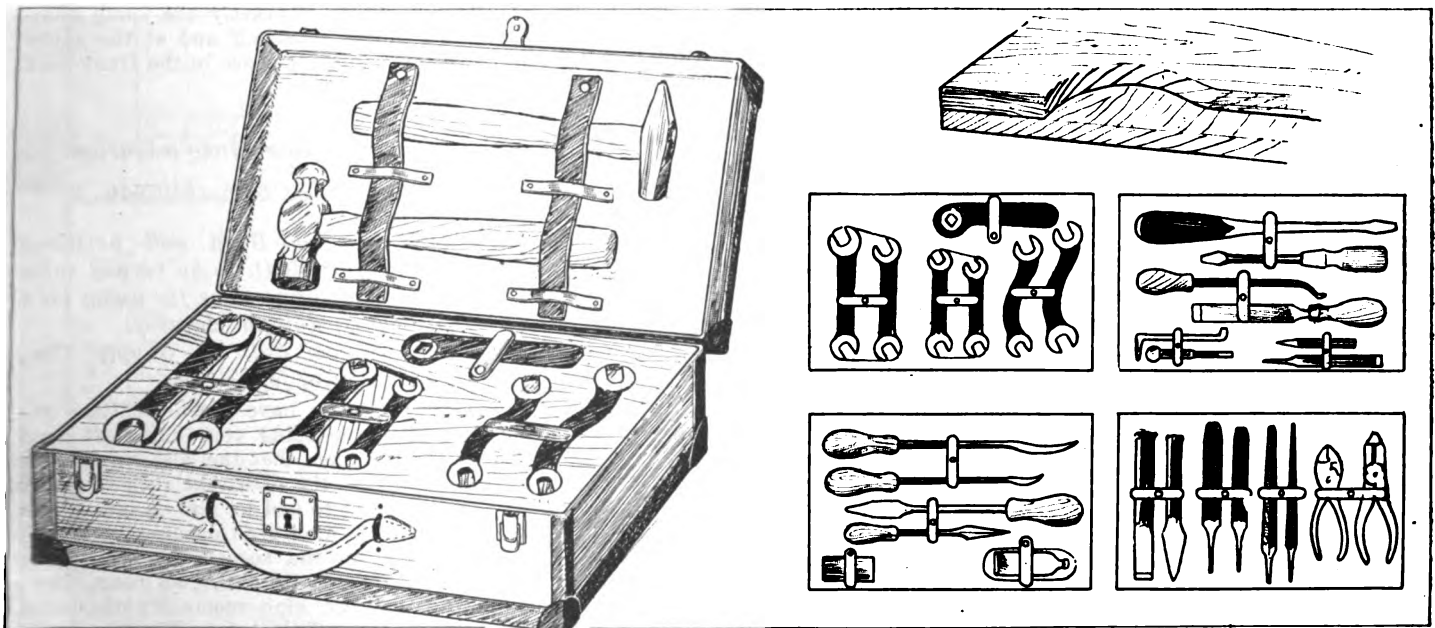
Bottom tray—Chisels and large punches. Where only four trays are used, the second may be eliminated.

### *Sales Meetings Show Why*

I hold a salesman's meeting once a week. If a sale has been lost we investigate to find the reason. If it was through weakness in the salesman we try to strengthen him in the point on which he failed.—F. M. Ephland, Roamer Motor Co., Kansas City.

### *Believe in Your Truck*

To be a good salesman an agent must thoroughly appreciate the fact that his own truck or car is the very best on the market for the purpose for which it is sold.—M. A. O'Mara, White Co., Kansas City.



*This is how the trouble man's repair kit looks*



# SCIENTIFIC CONSTRUCTION

GARAGES

SHOWROOMS

REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

## Two Floors and Basement

*Character of business—Ford sales and service.*

*Details wanted—Two floors and basement on plot 45 x 80 ft., parts and accessory stockroom, office, showroom, storage.*

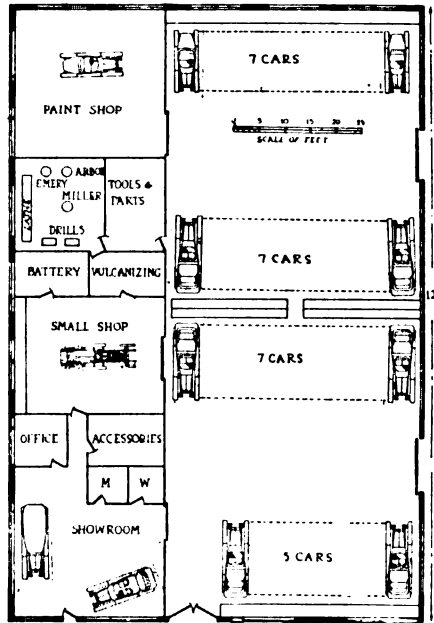
*Name—Ford Motor Co. of Canada, Ltd., St. John, N. B.*

**Answer—**Nothing was said about whether an accessory store was desired. We believe, however, that you will want one and have therefore included this feature. If it is not wanted it is a simple matter to ignore it, using the whole front space for car display.

The accessory stockroom is also intended as the Ford parts stockroom and is therefore adjacent to the shop as well as to the store.

In arranging the bins and shelves in the stockroom remember that they should be placed lengthwise of the building, thus permitting a man entering either door to reach any point with fewest steps.

You should have the articles that are most in demand near the door. That is, the parts called for most often by the shop should be nearest the shop door and the articles most in demand in the accessory store should be near that door. However, in the latter case, the most popular articles, if not the major portion of your accessory stock, will be on the shelves in the store, the stockroom serving as a place to store reserve stock, bulky and unsightly accessories, and Ford parts.



*Twenty-five car garage in building 80 x 120 for G. W. Morton*

## A 25-Car Garage

*Character of business—Accessories, sales, storage, service, battery repairs and charging, vulcanizing, painting.*

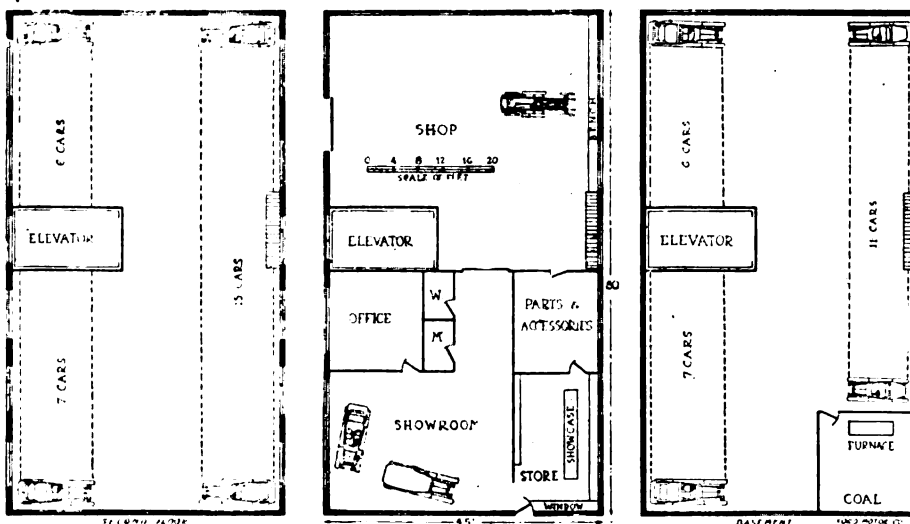
*Details wanted—Accessory store so arranged that part of it could be used for a showroom for one car, two large display windows, small office so located that the attendant*

*could cover the sale of accessories, ladies' rest room, vulcanizing room, battery room, paint shop, large repair shop with 25-car capacity, complete machine-tool equipment, a portion of the machine shop large enough to hold three cars and machine tools, part to be partitioned off in winter, accessory room, winter shop and paint shop to be adjacent so rooms could be heated in winter, lot 160 x 160 ft., with street on one side only, building on part of lot only.*

*Name—G. W. Morton, Wollaston, Mass.*

**Answer—**Herewith is a plan drawn exactly to your specifications. The two main entrances to the shop are at the side of the building. Inasmuch as your plot is quite large, we found it convenient to place the shop entrances at the side and would advise you also to make use of the ground in front of these entrances for minor adjustments in the summer weather.

You made no mention of garage space for storage of cars and therefore we have not provided any. If you require some storage space simply extend the building to the left as far as desired and use the front half of the main shop for storage and the rear half for shop work. In other words, if you made the building 130 ft. frontage instead of 80 ft., you would have exactly the same shop space in the rear half and at the same time have storage space in the front half for about 30 cars.



*Two floors and basement for Ford Motor Co. of Canada*

## Turning a Barn Into a Garage

*Character of business—Storage, service, sales.*

*Details wanted—Barn and bottling works 50 x 50 ft. to be turned into a garage; suggestions for using loft without installing elevator.*

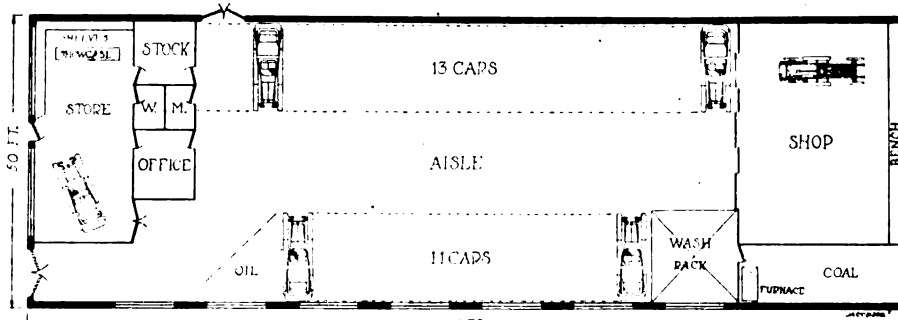
*Name—Cook's Auto & Supply Co., Cooperstown, N. Y.*

**Answer—**You have given so little information regarding your barn loft and its surroundings that the best we can do is to suggest the uses that such a space might be put to and let you decide which is best. We have seen garages with the following on the second floor: Roller skating rink, dance hall, pool room, furniture storage, club rooms, gymnasium, apartments, offices, etc. Whether you can adopt any of these suggestions depends on the suitability of your loft and

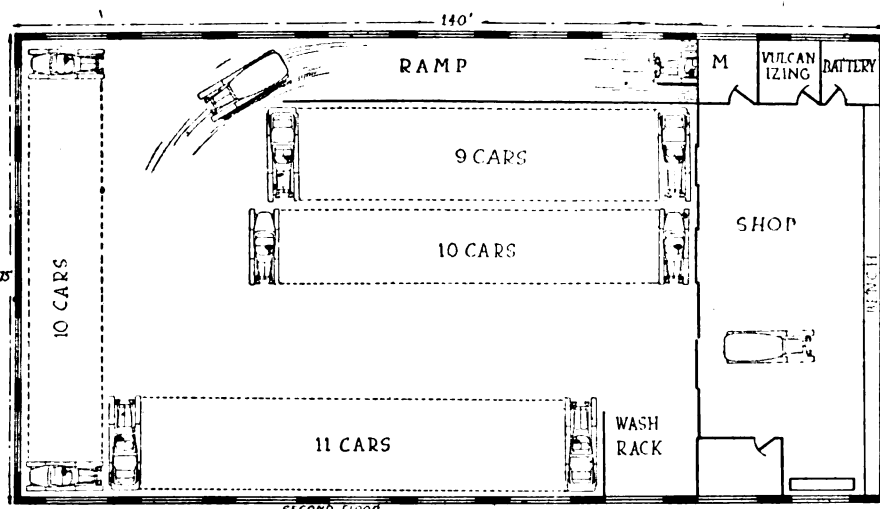


on a lot of local conditions on which we have no information.

We are also inclosing a plan with another idea, and that is that you use a strip across the front for electrical work and vulcanizing and the remainder of the space for a used-parts business. If there is no one in your territory doing such a business, here is an opportunity for you. You buy old cars for whose parts there is a demand, tear them to pieces and sell the parts. If you are interested in this suggestion we shall be glad to go into greater detail.



Addition 50 x 150 for F. H. Jacobson



Addition of 50 x 150 Ft.

**Character of business**—Sales, service, washing.

**Details wanted**—Addition of 50 x 150 ft., to be built on west side of existing building 25 x 70 ft., office, showroom, toilets, furnace and shop at rear, wash rack, driveway between buildings.

**Name**—F. H. Jacobson, Lexington, Neb.

**Answer**—Showroom and accessory store are combined because we believe that this is the way you wanted it.

The driveway is placed at the side of the building so that your front windows may be better utilized for car and accessory display. You will find that this location of the driveway will cause no inconvenience.

### A Lot with Alley in Rear

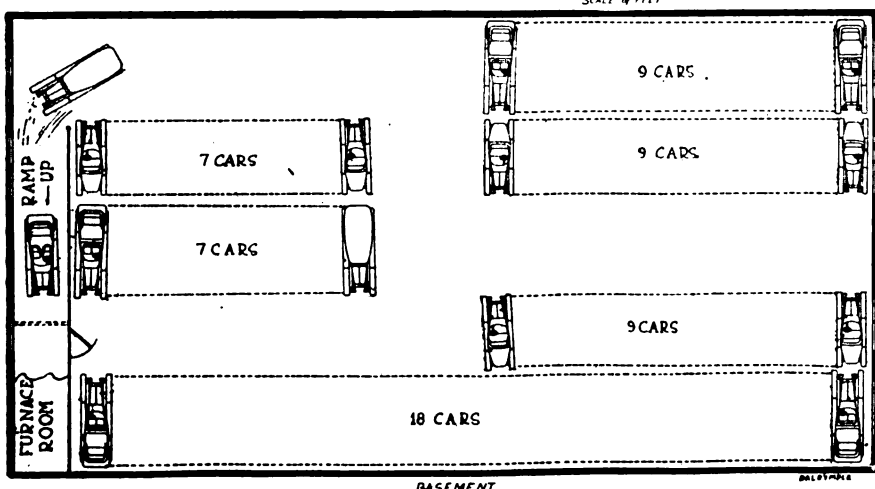
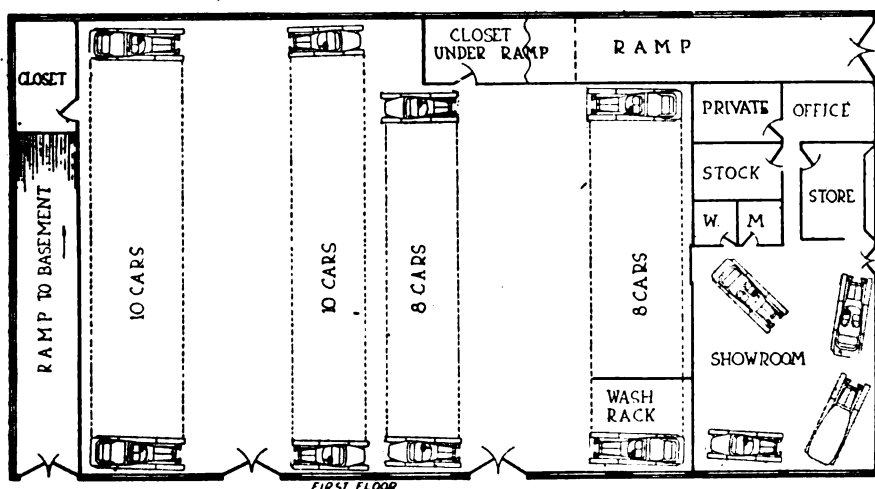
**Character of business**—Storage, service, car and accessory sales.

**Details wanted**—Corner lot 75 x 140 ft., alley in rear, showroom, office, two floors, basement, etc.

**Name**—Clark C. Dalrymple, Fargo, N. D.

**Answer**—Here is a plan worked out carefully to meet your requirements. The plot lends itself readily to the use of a ramp instead of an elevator and therefore one has been used.

There is a showroom, accessory store and general and private offices in one unit at the front. The shop unit on the second floor contains a battery room, vulcanizing room, tool and parts room, space for machine tools, and a locker and wash room for the workmen.



Two floors and basement on lot 75 x 140 for C. C. Dalrymple

### Sales Expense a Profit

Don't try to skimp on your sales expense. Hire good men and enough of them properly to handle your business. Unless a due proportion of your overhead is sales expense you are lopsided and success is problematical. — Swaney Motor Co., Carroll, Ia., Ford and Fordson.



# Editorial Observation

## Play Fair with the Dealer

**W**ITH the fall in tire prices there has come comment from some sections that some of the tire companies may not be playing fair with the dealers. It is stated by one small dealer in a letter to Motor World that manufacturers have loaded up the dealers with tires during the late winter and spring and that the cut, coming at the beginning of the selling season, leaves the dealer "holding the bag."

In any case in which this is true an injustice is being done. In order to iron out the curves of the industry and get the dealers to carry stocks during slow seasons, manufacturers and distributors have for several years urged dealers to aid in carrying the load. They have been asked to stock up during the dull months for two reasons. One reason is to make sure of a stock on hand when selling begins. The other is to help the factories, which must produce on a more or less even volume throughout the year.

There are thousands of dealers who have heeded this request, and the result has been that the curves of buying have been brought down to something like an even line. It applies to tires, equipment, cars and everything else.

With this condition existing and with the dealers

in a spirit of co-operation, it is merely a case of throwing a monkey wrench in the works if any manufacturer has loaded up his dealers and then cut the prices from under them.

An investigation by Motor World has disclosed that many manufacturers—among whom are the biggest in the business—have in their contracts a clause protecting the dealer against price reductions. This practice should be general. No dealer should be left in an adverse situation because he has bought goods that a manufacturer wished to sell him. Were such practices pursued the good-will in the trade would speedily be dissipated and we should become a disorganized group of antagonistic units instead of a solidarity with a single motive.

Let us not forget that one of the greatest benefits that ever came to our industry was the guarantee for six months or so on car prices at the time when the back-to-business movement was begun. It helped put the automotive industry in the van of reconstruction.

Let us do nothing which will in any way make our own way harder. It is difficult enough combatting exterior adversities. There must be complete co-operation, understanding, good-will and confidence.

## The Flat Rate Plan

**S**INCE the story on the Flat Rate Plan for Selling Service and Repairs was begun in the Summer Merchandising Number of Motor World, April 16, several dealers, of whom Motor World knows, have begun the installation of this system in their shops.

One such dealer applied to Motor World for reference to some man who could handle this installation, supervise the working out of the times and rates and revamp the dealer's shop record system. When Motor World has knowledge of such men it is glad to do this and wishes it might place thousands of capable executives in positions where they could benefit the trade in this way. Doubtless the majority of dealers already have men who can handle the work.

Several readers have written to Percy E. Chamberlain, who wrote the story, asking him to lend them a complete copy of the little book illustrated in Form No. 20 in the supplement to the Summer Merchandising Number. These requests he does not wish to grant, because the book would be useless so far as its

practical use is concerned. The figures arrived at in this book depend on the rate paid for labor, the shop equipment and so many other local factors that no two dealers would arrive at the same set of figures.

In following up this story on Flat Rates Motor World wishes to be of maximum service. It is anxious to answer any questions, or refer them to Chamberlain, who has kindly volunteered to be of further assistance if necessary. But, above all, it would like to see the dealers with trouble-creating shops and service stations try this plan and see if the mechanical end of our trade cannot be placed on the high plane on which it belongs.

### BUILD NOW GOOD ROADS

Every time a good road is built from YOUR town to the country it means more business for YOU and every other merchant in your town. It means better living for the farmers, a greater outlet for MORE food products. Take YOUR part in this work.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## What Is *Your* Opinion on the Ford Parts Business?

Your Comment Is Invited for Printing on This Page

Editor Motor World: I am in receipt of the enclosed open letter Jack Fulton of the F. H. & S. Co., Chicago, has written to Mr. Brooks. There is a good deal of truth in what he says, and thinking perhaps you might want to use some of it in an article calling attention to the trade as to handling a cheap and inferior line of Ford parts, I am sending it to you. I believe this would make good education for the industry.

I told Fulton I was going to mail you this letter and he gave me permission to do so.—Sidney F. Beech, President, Motor Car Supply Co., Chicago.

Mr. T. M. Brooks,  
c/o The Automobile Supply Co.,  
Chicago, Ill.

MY DEAR MR BROOKS:

I am taking the liberty of replying to yours of July 1 in an "open letter."

First, there can be no questioning the fact that there will always be an enormous business in Ford parts. With a million and a half cars in use, and more than 5000 being shipped daily, there can be no doubt about the volume of business to be done. It is simply a question of who will get this business. Will the Ford Motor Co. successfully control it? Can they frame and execute a policy that will eliminate the makers and sellers of duplicate parts? Or will the jobbers continue a satisfactory volume in same?

Before the war the Ford Motor Co. sold from 65 per cent to 75 per cent of replacements parts through its agents. During the war the bars were let down and Ford agents were tacitly allowed to get parts wherever they could. The war is over, and now what is more natural than that the Ford Motor Co. should put the bars up again, rebuild their fences, and get as much of this business back as possible. We believe they will regain much of what they lost due to war conditions. But they will never control over 75 per cent of the Ford replacement business, and I doubt very much if they will ever regain and hold over 65 per cent.

The idea that a Ford agent in a town of 2000 people—and say 800 cars—can control the Ford repair business in that

town is absurd, and for two reasons: First, the two or more other garages in the same town are not so charitable as to willingly patronize and help build up a competitor's business. Second, the Ford agent himself is not anxious to assist his competitors in the repair of Ford cars, which he considers his own legitimate business. So the bargain necessary to control the local Ford business lacks the support of the two parties necessary to make that proposition feasible.

Who then will supply other than Ford agents? Obviously, the jobber who sells the other garages. It may be only 25 per cent of the aggregate business done on Ford repairs in that particular town, but the volume of that 25 per cent is enormous. The replacement on ring gears alone is actually 6000 per day. No jobber thinks of eliminating ring gears from his stock, and yet of the 6000 sold for daily replacement the Ford people supply about 5000, and we are all doing a nice business on the other 1000, which is only 17 per cent of the whole.

I am now coming to the important matter which I wish to bring to your

mind—the real danger that threatens the jobbers and makers of Ford parts—the real thorn in the side of the builders of Ford cars. It is a matter which really DOES threaten to ruin the parts business, and one for which I think the jobbers are wholly to blame. It is the question involving the quality of the articles sold as duplicate parts.

I recently had a long talk with a "director general" of the Ford organization, and was told that the activity of the company was prompted and carried on, not so much to control as far as possible a business that they felt was rightfully theirs, as to eliminate the criminally inferior "junk" parts that were offered and bought by jobbers as "duplicate" parts and sold as dependable merchandise. He said if this condition continued the business would in a large measure come to them unsolicited. If, on the other hand, high quality parts were sold, they probably would not be able to stop their sale, and did not nearly so much care, as the use of good materials did not jeopardize their particular interests.

Don't you think he is right? Don't you believe and know that a handsome profit can be made on Ford parts of real quality that are made right? Do you blame the Ford Motor Co. for protesting against a radius rod that is made of iron tubing? Of gas pipe? That is "spot" welded? That, instead of actually being a SAFETY FACTOR (built to buckle from a sudden shock, but never break) is in reality a death trap to the owner?

Price competition has driven the quality of radius rods down to a point where the jobbers will not pay for a rod made from COLD-DRAWN SEAMLESS STEEL TUBING, brazed and pinned to the forgings. No! To undersell their competitors, and on the theory that anything is good enough for a Ford, the market is flooded with welded tubing rods, iron pipe rods and even gas pipe. And for life insurance, a lucrative business is done in so-called "auxiliary radius rods," necessary only because an owner has previously bought a junk radius rod, which the jobber could buy

### *What About It?*

**HOW** do you fix the salaries or commissions you pay your salesmen?

What is the basis you use for this calculation, especially if you operate in a small town where you really need more than one salesman yet 5 per cent on the sales would not be enough to pay two men?

Motor World has had inquiries as to how to fix the salary of the salesmen in the smaller cities. And dealers in the bigger cities are also interested in having light on this subject.

Will the salesmanagers of dealers volunteer information on this subject for printing on this page?



for 20 cents less, and which endangers life except for the auxiliary.

You can buy a seamless steel rod and sell it at a price showing both jobber and dealer a handsome profit—and the last few thousand which we have sold have been as finely finished as any rod you ever saw. The tubes alone in this rod cost on the present market in eleven gage, which we use, 25 cents more than the BRAZED or WELDED tubes so much used, and 50 cents more than iron and gas pipe sold by several shameless manufacturers. If you question these statements, call up any tube firm in your city for quotations and you will be convinced. We get from \$1.20 to \$1.25 for this radius rod. And many jobbers continue to buy the junk rods and help destroy a wonderful and growing trade, and don't realize the injury they are doing their own business.

#### Facts About Connecting Rods

Take connecting rods. Mr. Ford makes his rods of vanadium steel. In spite of this, the breakage is enormous. With the encouragement of the jobber, who cares not a fig for quality, and is interested only in an immediate and long profit, the price of connecting rods is down where to meet it you must sell junk. Here are some facts in regard to connecting rods:

The forgings in rods sold at prices along the high sixties and low seventies (sounds like a good golf score, doesn't it?) are made from "mild" steel containing from 10 to 20 and up to 25 to 35 carbon. These forgings can be made with six to eight blows of the forging hammer. Steel containing 35 to 45 carbon requires from ten to twelve blows, and costs several cents more, aside from a 10 per cent fixed additional charge at the mill for the material. This is not all. It costs 20 per cent more to machine the higher carbon. It works slower.

Thus there is a cost of 6 or 7 cents more for the forging and fully 5 cents for the machining. The bolts should be heat treated—few are, and the babbitt can vary fully 75 per cent in cost. These differences, added to the cost of the 70 cent rods, bring the figure up to where it represents your golf score instead of one made by Chick Evans.

#### What Forgings Really Cost

Now for a concrete case. This is not a sales letter—it is directed at an evil that must be corrected. We actually furnish a connecting rod made from 35 to 45 carbon (we have sold over 70,000 of them), the forging alone costing 7 cents more than we were asked to pay for 25 to 35 carbon; and you and I both know that the 35 to 45 is none too good. You and I also know the "mild" steel is positively not good enough. We know that most of the piston complaints result from imperfect and poorly machined rods. We also know that the jobber can make a good profit selling a high-grade rod.

We sell rods with heat-treated bolts and nuts—but they cost more. We have arranged to furnish for Ford rods the well-known Kel-bab bearing metal. It

melts at 28 per cent higher heat tests than the tin and lead base babbitt (472 degrees to be exact—reference R. W. Hunt Engineering Co., Chicago). It must and does cost more. We sell such a rod at about 80 cents. To sell it lower spells loss.

What do you recommend? I am offered so-called rods that I can sell you at 52 cents. Should I offer them, or preach the gospel of QUALITY and avoid the direct spear that Mr. Ford aims at those who market inferior goods sold as "duplicate parts"?

Special Ratio Gears are actually furnished with "mild" steel pinions, notwithstanding the pinion is small and has but little material in it. Ours, as you know, are made of chrome-nickel steel and cost 90 cents more than a pinion made of "mild" steel. Shall we cheapen our special ratio gears by putting in a pinion that looks as good, but you and I know, will not stand up, for the sake of meeting a price?

Shall we sell a pot cast, poorly machined piston ring and sacrifice accuracy to make our price one or two cents less than it costs to furnish a high grade, refined, individual cast piston ring? When a man replaces the rings on his pistons does he not do so to improve the running of his motor?

Shall we use Hardware Grade balls to save 6 or 7 cents in the price of a front hub, and put in dust rings made of tin and felt washers containing hair and cotton, simply to beat the price of honest merchandise and increase our own profits?

These are the questions that must sooner or later be answered and that answer will spell the future of the jobber in the sale of replacement parts, and very largely the attitude of the Ford Motor Co.

#### Steel Market Not Going Up

The steel market is not going up. Forgings are easy in any quantity and as far ahead as you wish to specify. Prices, I believe, are practically as low as they will go—they will not advance. I believe most of my trade is too intelligent to believe this tommyrot about higher prices or scarcity of materials. The truth is, these declines in price have not been indicated entirely by lowering of cost price. The reduction represents largely a lowering of quality, a cheating on materials to lower the price and under-sell, and by new concerns who got in over their heads, dazzled by a vision of an enormous quantity business, based on war conditions, only to find themselves up against an overproduction now that Mr. Ford is back on the job offering a better rod than they would attempt to market. These are the things that threatens to ruin the duplicate parts business.

You have always told me that you did not care so much for the price as to be assured that the quality was right. I have known you many, many times to pass up lower prices from new, mushroom concerns who lacked experience both in what materials to use and what their ultimate costs would be. You have

known many, many cases where the specifications read all right, but the inexperienced manufacturer had to switch finally to cheaper materials to save himself from loss. You have been all through this, so I tell you frankly: If the jobbers lose out in the Ford parts business they will have only themselves to blame. It will be because they allow price competition from irresponsible concerns to influence their better judgment in insisting and knowing and getting the right materials in duplicate Ford parts.

I also say that unless you, and the few other jobbing friends to whom I am sending this letter, encourage the sale of parts made of legitimate materials—unless the honest producer of parts can have your support—we will all have to quit. If the jobbers are going to encourage the sale of radius rods made of gas pipe, I shall, of course, be forced to quit, and say a seamless tube radius rod is too good for my trade.

If, on the other hand, we all insist on getting and demanding quality goods in our duplicate parts that compare favorably in material and quality with the original—if enough jobbers will help—it will tend in a large measure to remove the imminent peril to the parts and replacement business, and Mr. Ford will not interest himself in this part of your business any more successfully than he does in preventing the sale of pneumatic tires for replacement on his cars, and which is probably 50 per cent of the entire number of tires sold.

What do you think about it?—The F. H. & S. Co., Jno. W. Fulton, president.

#### Department Store Puts On Show

CHICAGO, May 16—That the motor car accessory department of large retail stores can conduct successful shows was amply demonstrated here last week when Marshall Field & Co. staged a tabloid motor car show which the company ranks among its most successful, both from the point of sales and general attendance.

Some twenty-four manufacturers of accessories as well as three car makers were invited by the store management to put on displays of accessories for which the company is representative. Among the more pretentious exhibits was a cutaway Cadillac chassis, a Cole, with an elaborate display of camping paraphernalia, and a Marmon engine mounted on a pedestal. Lecturers were in charge of these exhibits. Laboratory methods of testing oil were shown, as well as the process of making tires.

Stewart Warner had on hand its show apparatus for demonstrating the operation of the Stewart vacuum tank, while other displays included Hartford shock absorbers, Rayfield carbureters, Auto-scope windshield cleaners, K.P. Universal rim, Monarch automobile lock, Detroit tire pump, Ray socket wrenches, Lane jacks, Gordon seat covers, Jeavons spring leaf lubricators, Buell whistles and Sebring tires. A gigantic model of the A-C spark plug in action proved quite a drawing card.



# Automotive Equipment

## HYRATE CELL TESTER

This is a cell tester consisting of two steel prods attached to a handle and 3 in. apart at the points. A special nickel-chromium resistance of about .01 ohm is connected to the prod also a voltmeter with a 2-0-2 volt scale. The resistance varies but little with change in temperature and the voltmeter is dead-beat. The outfit can be held in one hand and contact maintained by pressing the points into the post or strapped across one cell. Each cell in the battery may thus be given a high rate discharge causing the voltage to drop immediately. Price \$15 complete with voltmeter, \$7.50 without voltmeter.—Service Station Supply Co., Detroit.



Hyrate Cell Tester

## ROBERTS PRIMING COCK

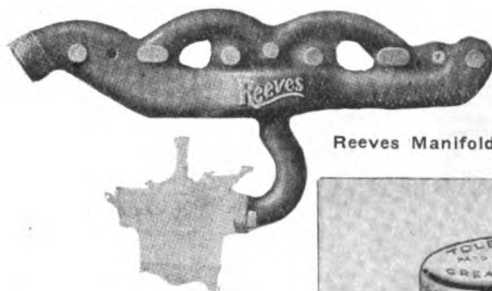
This is a dust proof priming cock very similar to the ordinary priming cock, except that the handle, which is a stamping, has a small circular cover plate integral with it. This is twisted over so as to cover the top of the priming cup when the cock is closed. This prevents the settling of dust on the cup. Suitable for use on passenger cars, trucks, tractors, etc.—Robert Brass Mfg. Co., Detroit.



Roberts Priming Cock

## BLUE STRIPE CLEANER

This is a cleaner for removing grime and old polish. It is intended only to remove the dirt and is not intended as a polish. Blue Stripe wax is a separate polish intended to be used after the cleaner has finished its work. It has only sufficient filler to make it workable. Price, pints \$1, quarts \$1.50, gallons \$4.50 for the cleaner; polish 25 cents a box.—Bayard J. Whitman, 200 Devonshire Street, Boston.



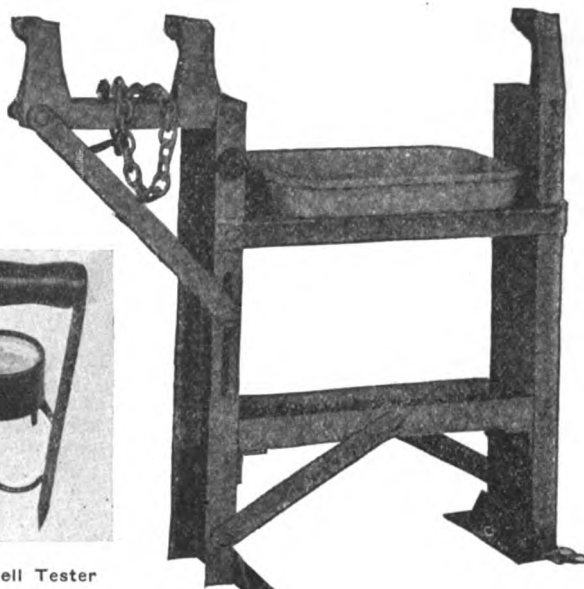
Reeves Manifold

## FILLOMETER FOR FORDS

This is a combined filling and measuring device for Ford gasoline tanks. It slips into the gasoline tank under the cushion and projects to the edge of the seat. The part in the tank is equipped with a cork float connected with a gage at the seat edge. This indicates the number of gallons in the tank. To fill the tank it is only necessary to raise the cap and insert the filling nozzle. Made of 20 gage steel finished with black rust-proof process. Price \$2.25.—Apex Electric Mfg. Co., 1410 West Fifty-ninth Street, Chicago.



Fillometer



Continental Axle Stand

## CONTINENTAL AXLE STAND

This is a stand for holding front or rear axles after they have been removed from the car or truck. The axle is clamped firmly in position on the adjustable vise and the taper of the housing is taken care of by the adjustment. The axle is at a convenient height to work on and may be torn down regardless of type. The stand will handle any and all types of axles both front and rear. A heavy cast iron grease pan takes care of the old grease and oil. Weight 145 lb. Price \$36.—Continental Auto Parts Co., Knightstown, Ind.

## DYNOLITE SPOT LIGHT FOR FORDS

This is a spot light for Fords with a focusing device which does not require tools to change the focusing radius. The lamp is turned on or off by a simple switch in the handle of the lamp. The bracket is water-proof and fits all Ford cars. It operates from the magneto through a regulating device which makes the illumination uniform regardless of engine speed. When the spot light is switched on the two headlamps are automatically dimmed. Price \$6.35.—Detroit Starter Co., Detroit.



Dynolite Spot Light

## REEVES MANIFOLD FOR FORDS

This is a combined intake and exhaust manifold for Fords. The hot exhaust gas surrounds the intake manifold from a point a few inches above the carburetor until it enters the cylinders and the intake pipe is so designed that an even distribution of gas is made to all cylinders. Price \$9.—W. G. Reeves, Stockbridge, Mich.

## TOLEDO GREASE CUP

This is a grease cup with no exposed threads, the pressure being applied by means of a hollow stem which is threaded into the nipple of the grease cup. When the lower part of the grease cup is turned around, the plunger, which has a leather washer, is forced upward, thus compressing the grease in the upper part of the cup and forcing it through the hollow stem. The top is easily removed with a side motion for refilling. One complete turn after filling jocks the cap and when the cap can no longer be turned with the fingers, refilling is necessary. Price 45 cents each.—K-M Mfg. Co., Factories Building, Toledo, Ohio.



Toledo Grease Cup



# The RETAIL NEWS

## MIDDLE WEST

**Fred H. Levengood and Walter W. Leven-good and June Rhoades** have opened a Goodyear tire and service station in Jackson, Mich. They will operate under the firm name of Levengood & Rhoades.

**Auto Owners Supply Co.** has been organized at Jackson, Mich. Its membership consists of a large number of Jackson automobile owners and through its operation they hope to obtain a 20 per cent reduction on accessories and 15 per cent reduction on tires.

**Ellis A. Bevier**, Akron, Ohio, has opened a tire vulcanizing establishment in Jackson, Mich., under the firm name of Bevier, Peck & Thorne.

**Canaday Bros.**, Wapella, Ill., have opened a new garage and sales agency, and will do a general repair, storage and accessory business.

**James J. Moran**, Decatur, Ill., has let the contract for a garage of one story at the corner of Franklin and North streets, to cost \$7,000.

**Twin City Tire & Accessory Co.**, Champaign, Ill., has opened a store at 106-108 West University Avenue. J. E. Sinniger, late of Springfield, Ill., has been appointed manager.

**Earl W. Stratton**, Streator, Ill., has opened a garage and repairshop at 116 North Bloomington Street. He recently returned from army duty in France.

**Auto Supply & Accessory Co.**, Aurora, Ill., has opened branch stores in Elgin and Joliet. The Elgin plant is located in the Flynn building, corner of West Chicago and State Streets, while the Joliet plant is in the Stevens Building, corner of Joliet and Van Buren Streets. The Aurora headquarters are at 16 South La Salle Street. E. H. Robinson is president, and J. A. Kremer, vice-president and general manager. Other branches are in contemplation.

**Moon Motor Car Sales Co.**, Peoria, Ill., has been organized and has opened a sales agency at 1514-17 Main Street. Articles of incorporation have been issued with capital stock of \$10,000. Incorporators: W. A. Hoerr, E. C. Leisy and W. T. Irwin.

**Al C. Webb**, Indianapolis, of the motor car company which bears his name, and Walter H. Van Deusen are now permanently located in Indianapolis as state distributors of the Moon. These men have been business associates for several years, but have never been linked up before until the formation of the present company.

**Paterson Motor Sales Co.** has been incorporated at West Liberty, Iowa. A building 120 x 40 has been erected from cement with stucco front.

## PACIFIC COAST

**Lieut. D. C. Warren**, Portland, has purchased a half interest in the Roesch-Olson Motor Car Co., Seattle, and will merge with the D. C. Warren Motor Car Co., Portland. The combined organization will be Pacific Northwest distributor for Velle and Peerless cars and Velle trucks.

**James J. Grevley and Spencer Biddle**, Portland, have established the Alemite Lubricator Co. at 432 Alder Street to handle Pacific Northwest distribution for the Alemite lubricator.

**Watt Shipp**, Salem, Ore., has purchased from Vick Bros., Oregon distributor for Fordsons, their entire interests in the Valley Motor Co. and Vick Bros. garage, at Salem. The deal includes the Marion county, Ore., agency for Ford cars and Fordson tractors.

**Bolton's Service Station**, Portland, has moved into new quarters at Tenth and Couch Streets.

**Distributors' Corp.**, exclusive Pacific Coast distributor for Hassler shock absorbers, has established a branch at 104 Twelfth Street, Portland. J. H. McKinley is in charge.

**Auto Electric Equipment Co.**, Portland, Prest-O-Lite battery agent, has leased a site 100 x 100 at Broadway and Flanders Street for a modern battery service station to cost \$16,000.

**Kelly Tire Sales Co.**, Portland, Oregon distributor for Kelly-Springfield tires, has leased a 50 x 100 site at Burnside and Tenth Streets and will remove about July 15 into a modern concrete building.

**La Grande Motor Car Co.** is the new style of the Galloway Rees Co., La Grande, Ore.

**O. H. McLain**, formerly part owner of the Overland Garage at San Luis Obispo, has opened a general garage at Manteca, Cal.

**J. S. Muncy and L. L. McComber** have established the Manteca Vulcanizing & Battery Works at Manteca, Cal., specializing on Prest-O-Lite batteries and Firestone tires.

**Stith & La Sarge** have established a vulcanizing shop at Manteca, Cal., and stocked Republic and Dreadnaught tires.

**O. W. Hunsucker**, formerly of Turlock, has purchased the Ford garage and taken the Ford agency at Tracy, Cal. A new building 50 x 167 has been erected on the State highway.

**Wm H. Pope & Sons** have purchased the West Side Garage, Tracy, Cal.

**E. E. Hatch** has erected a new building at Manteca, Cal., known as the Ford Garage.

**Durkee-Sargeant Co.** has secured a distributing agency for Hood tires and opened salesrooms at 1544 Van Ness Avenue, San Francisco.

**Frank A. Busse Sales Co.** has opened attractive tire salesrooms, including solid tire service station, at 1356 Van Ness Avenue, San Francisco. The new company will distribute Brunswick tires and C. W. Kohl is sales manager.

**H. W. McKevitt** has established a retail automotive equipment store at 1332 Van Ness Avenue, San Francisco, under the name of McKevitt Auto Supply.

**L. H. Moses and E. E. Hardies** have purchased O. E. Reed's tire store and vulcanizing plant at 1219 Van Ness Avenue, San Francisco, and continue as Servewell Tire Co. with a stock of Portage tires and Howe tubes.

**Edwards Tire Shop**, Livermore, Cal., has removed to larger quarters on Main Street.

**Russell Bros.** have opened a vulcanizing shop at Tracy, Cal.

**Lucky McFall** has taken possession of the new building 50 x 100 at Manteca, Cal., designed especially for Chevrolet and Scripps-Booth sales and service.

## SOUTHWEST

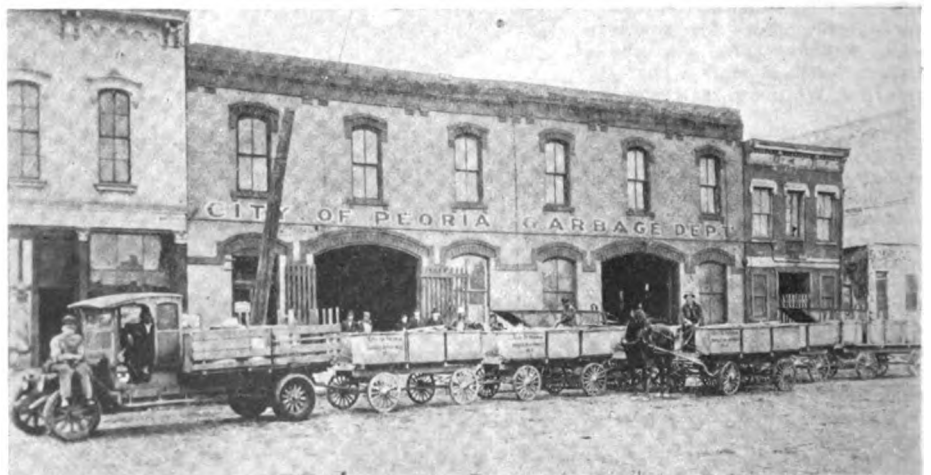
**McQuillan, Bradford & Co.** have taken over the motor car rebuilding departments of the Packard-Missouri Motor Car Co., St. Louis, and is now located at 4306 Forest Park Boulevard. A. C. McQuillan and W. T. Bradford of the new firm were formerly with the Packard agency.

**Davie Motor Car Co.**, distributor in St. Louis for the Stephens, Daniels and Elcar, has leased the five-story brick building at the southwest corner of Nineteenth Street and Washington Avenue. It has 45,000 sq. ft. of floor space. The building formerly was occupied by the Wright Carriage Co., and extensive alterations will be made.

**National Motor Car Co.**, with headquarters at Omaha, recently leased a two-story building at 1727 McGee Street, Kansas City. The Kansas City branch will distribute in five states.

**Howard Motors Co.**, Kansas City, has taken a long term lease on the 100 ft. site on the southwest corner of Nineteenth and McGee Streets, on which will be built a three-story structure, the first floor of which will

## How Do They Haul the Garbage in YOUR Town?



*In Peoria it is hauled with trucks and trailers. This means sales for automotive dealers. Look over the situation in your city and see if there aren't some live truck and trailer prospects there*



be a tiled, daylight salesroom. An elaborate and complete mechanical department will occupy the second floor. W. C. Howard, head of the company, is distributor in Missouri and Kansas for the Lexington and Hupmobile.

J. Booth, manager of the Hutchinson Motor Co., Coldwater, Kan., has opened a salesroom and service station.

Victory Motor Co., Kansas City, has been organized to handle the Davis motor car at 2112 Grand Street, subleasing from the P. J. Downes Co.

Wallace Motor Co., Cameron, Mo., which recently bought the Pixlee Garage, has opened salesrooms for the sale of Cadillacs and Oldsmobiles.

Victory Motor Co., Beaumont, Tex., opened for business recently for the distribution of Mitchells in six southwest counties of Texas.

O. J. Watson Motor Co., Wichita, Kan., will erect a five story fireproof warehouse to cost about \$100,000. It will be used largely for the storage of cars and Fordson tractors.

Crowe-Burlingame Co., Little Rock, Ark., with offices and storerooms in Little Rock, has been organized with a capital stock of \$100,000. The company will conduct a wholesale accessory and garage equipment business. W. R. Crowe is president.

Fred B. Johnston, Fort Smith, Ark., Federal truck dealer and the Langford Motor Car Co. have been consolidated into what will be known as the Federal Truck & Motor Co. J. H. Parker is president. The company will occupy a new building being constructed for their business, which contains 14,500 sq. ft. of floor space.

B. L. Thomson, Herington, Kan., has opened a service station primarily for Reo cars and Moline and Heider tractors, but he will do all kinds of repair work.

#### NORTHWEST

Kalem & Ettreim, Ellsworth, Iowa, have bought the Anfinson Brothers Auto Co.

Agaard Brothers & Kirk, Exira, Iowa, have bought the Hawkeye Tires Sales Co., Atlantic, Iowa. They will handle the Liberty car in addition to the tire lines.

Howard & Brannon, Des Moines, have opened a sales agency at 1216 Mulberry Street and have secured the state territory for Corliss trucks.

R. V. Fairchild and George E. Oliver, Onawa, Iowa, have formed a company to handle Scripps-Booth and Chevrolet cars in Monona county.

Shaw Motor Co., Traer, Iowa, is opening a branch at Garrison, Iowa, which will be under the management of Frank Sackett.

W. E. Lyon and W. G. McMillan, Iowa Falls, Iowa, have formed the Iowa Falls Machine Works and will do general garage work.

W. V. Evers and E. R. Gasser, Davenport, Iowa, have bought the Henry Jager Garage 213-17 East Fourth Street.

C. E. Luther and Son, Grand Junction, Iowa, have taken over the Lincoln Garage there.

#### NEW GARAGES

City Garage (Schwender & Wall)  
Enterprise, Kan.  
It. B. Courtney.....Lebo, Kan.  
Kreamer & Green.....Jewell, Kan.  
Wendall Noland.....Pratt, Kan.  
Ben. Jenkins.....Mulberry, Kan.  
C. J. Rinehart.....Clifton, Kan.  
Central Motor Sales Co. (100x120),  
Osage City, Kan.



**PROUGH BROTHERS** started handling Chevrolet cars in Bakersfield in a small way three years ago, but they are now operating five branches and sold 74 cars during March—their sales being only exceeded by Chevrolet in Los Angeles. The photo shows their establishment recently opened in Hanford, California. The giant leaning against the wall of the building is the sales manager, S. S. Meyer, who is reputed to be the tallest man in the world and is recognized as the tallest automobile salesman in the world. He measures 7 ft. 6 in. in his stocking feet.

Arthur Browning (will erect),  
Centerville, Kan.  
Chas. Beck (large addition),  
Cawker City, Kan.  
Harry Sutton (50x70).....Lecompton, Kan.  
Chas. Difani.....St. Mary, Mo.  
H. H. Mueller.....Cape Girardeau, Mo.  
A. A. Sexton (\$4000).....Kennett, Mo.  
Brown & Schaffer.....Creighton, Mo.  
William C. Barnett.....Lexington, Mo.  
Murley-Chapelle.....Montserrat, Mo.  
Riley Cook (will erect).....Plattsburg, Mo.  
B. F. Brokhhausen.....Tipton, Mo.  
R. H. Rees, R. N. Barber (will erect, 75x100  
at \$12,000).....Burlington Junction, Mo.  
Frank Buell.....Altus, Okla.  
Ed. Harrison (erecting).....Byars, Okla.  
Alex Garage (Oscar Vaughn).....Alex, Okla.  
Neil Weddle.....Muskogee, Okla.  
Clarke Garage (100x140).....Blackwell, Okla.  
John Lanotte.....Waurika, Okla.  
McDonald & Blasengame.....Pawhuska, Okla.  
H. D. Johnson, G. E. Sandel.....Waco, Tex.  
Cisco Battery Co. (erecting).....Cisco, Tex.  
Mayer & Toolan Garage (75x150),  
San Benito, Tex.

Wayside Garage.....Cisco, Tex.  
E. B. Edmundson (\$2500).....Houston, Tex.  
H. D. Honaker (80x120).....Farmersville, Tex.  
Harvey Candy, Clifton Bros.....Cameron, Tex.  
Burt & Stafford.....Columbus, Tex.  
Ralls Garage (75x120).....Lubbock, Tex.  
Gerald Miller.....Greenfield, Iowa  
Dubuque Auto Supply Co., 126 Main St.,  
Dubuque, Iowa

John Rake.....Rake, Iowa  
Klein Brothers.....Worthington, Iowa  
H. J. Hoy.....Storm Lake, Iowa  
Long and Mendenhall.....Sac City, Iowa  
Lee Lander, 1207 25th St.....Des Moines  
George Gruell.....Estherville, Iowa  
Ackley & Miller (concrete, \$20,000, 105x143)  
Tillamook, Ore.  
Griffith & Lee (brick, \$15,000).....  
Vancouver, B. C.  
Frank Marhle Co. (concrete, \$10,000), Yakima  
R. E. Anderson (two-story, concrete, \$30,000)  
Tacoma  
McKinley Auto Co. (concrete, 80x105, \$11,000)  
Waitsburg, Wash.  
Wakefield Bros. (concrete, 85x125, \$25,000)  
Elma, Wash.  
S. D. Burnstein (57x140, \$15,000).....Portland  
R. J. Miller (addn. to provide structure  
193x100 ft., costing \$12,000).....Seattle  
F. E. King (one-story, concrete, \$10,500)  
Portland

#### Pay-in-Advance Storage

We have gone on a pay-in-advance basis for monthly storage, and will have no future losses from accounts of owners who move in the middle of the month. Nobody has kicked.—W. S. Allard, Woodlea Garage, Kansas City.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2134—REMEDY FOR CLOGGED FORD OIL PIPE

When the oil pipe of a Ford is clogged, remove the radiator and take off the front gear plate. The cam gear is then removed with a puller. This will expose the end of the pipe and an air hose is connected to it and the air turned on, blowing the clog out. This saves tearing the engine down which would otherwise have to be done to remedy this defect.—A. R. Patterson, Linville Garage, Fairland, Ind.

## No. 2135—AUTOMATIC ALARM FOR OIL BARREL SPIGOT

An automatic alarm which rings an electric bell when the spigot of the oil barrel is left turned on is made by inserting an overflow device in the pipe that goes from the drip pan to the container in which the drip is collected. This overflow device consists of one can placed inside a larger can, the smaller one having a small hole in the side about one-third to one-half the way up. Normally this hole takes care of the drip and the level does not go above the hole, but if the spigot should be left turned on, the hole would be too small to carry off the oil, the level would rise in the small can and this would lift a float, thus closing a switch and ringing the electric bell which is in circuit with batteries.—V. H. Griffith, Oberlin, Kan.

## No. 2136—FURNACE FOR BLOW TORCH

A furnace for heating small jobs is made by mounting an old piston on three strap-iron legs of a length suitable to place the piston on a level with the flame of the blow torch.—C. E. Opplinger, Gibson-Overland Co., Vincennes, Ind.

## No. 2137—BREAKING OUT GLASS CIRCLES

Glass circles such as are used in headlamps are broken out cleanly and evenly by making a number of straight cuts from the circle to the edge of the glass and breaking these small pieces out one at a time. Care is taken not to cut inside the line of the circle.—Smith & Hemenway Co., Inc., Irvington, N. J.

## No. 2138—INEXPENSIVE STORAGE JACKS

Storage jacks for taking the weight of the cars off the tires while the cars are in storage are made from boards 1 in. thick, 8 in. wide and in a variety of lengths ranging from 14 to 18 in. A

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

board is selected of a length so that when placed under the hub the tires will clear the floor by 1 in. The two front and two rear wheels are raised together with an ordinary jack and the boards put in place. They will not allow the car to tip sidewise because the bottom of the tire hits the board and prevents this.—Joseph Giroux, Booth Cycle and Auto Supply Co., Rochester, N. Y.

## No. 2139—USING A VISE AS AN ARBOR PRESS

A vise is used as an arbor press when removing and replacing the bushings in an Overland connecting rod. A piece of 1½ in. pipe 4 in. long is placed on one side of the rod bearing against the steel forging. A piece of 1 in. rod 4 in. long is placed on the other side and this bears against the bushing. Tightening the vise pushes the bushing out. To replace the bushing, one jaw pushes on the rod, the other on the bushing.—C. E. Opplinger, Gibson-Overland Co., Vincennes, Ind.

## No. 2140—JACKS THAT STAY IN THE SHOP

To prevent shop jacks from being carried away in customers' cars or tool boxes, pieces of hardwood plank 8 x 15 x 1½ in. are bolted to the bottoms of all jacks. This makes the jacks unhandy to carry away, but does not impair their usefulness. The jacks are also made steadier and are less liable to tip over.—C. E. Opplinger, Gibson-Overland Co., Vincennes, Ind.

## No. 2141—TOW-LINE HOOK

A tow-line hook is made in the form of a corkscrew and is coiled about the rope. It is only a matter of a few seconds to attach or detach this and the hook will never drop off or cut the rope.—C. H. Ober, Ober's Machine Shop, Brush, Col.

## No. 2142—REPLACING FORD FRONT TRANSMISSION BOLTS

The four bolts on the front of the Ford transmission are replaced by one man working alone by inserting the bolts from under the car, laying a block of wood on top of a jack and lifting the jack till the heads of the bolts are pressed into the wood. This keeps the bolts in place and prevents them from turning while the nuts are put on.—G. A. Pellet, Lafayette Garage, Lafayette, N. J.

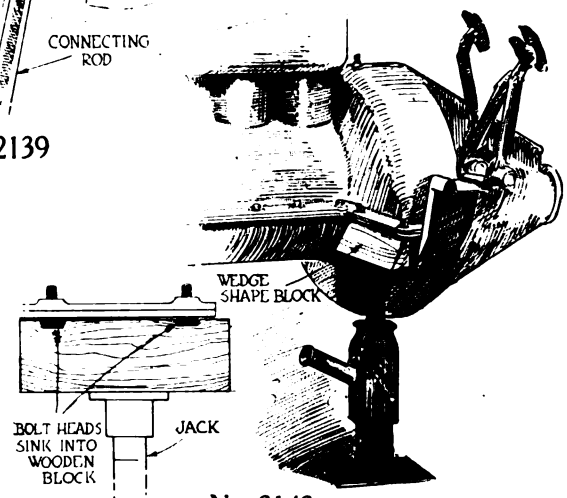
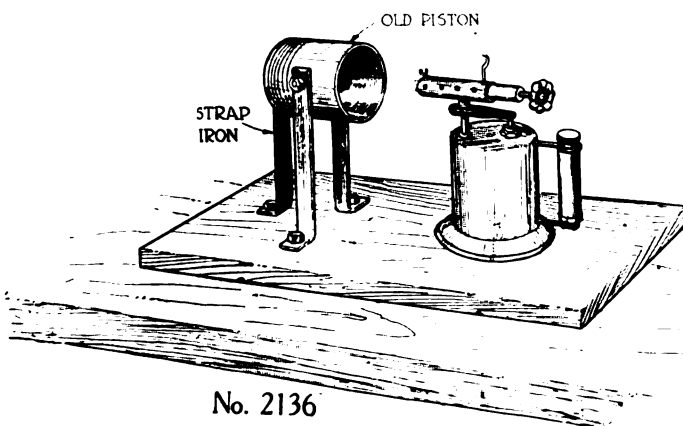
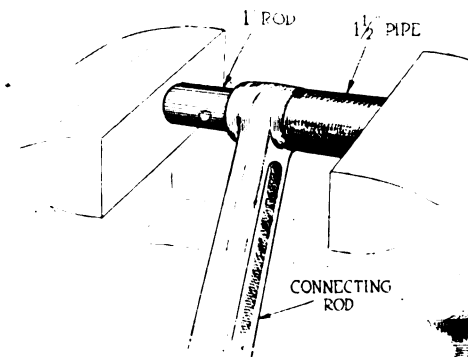
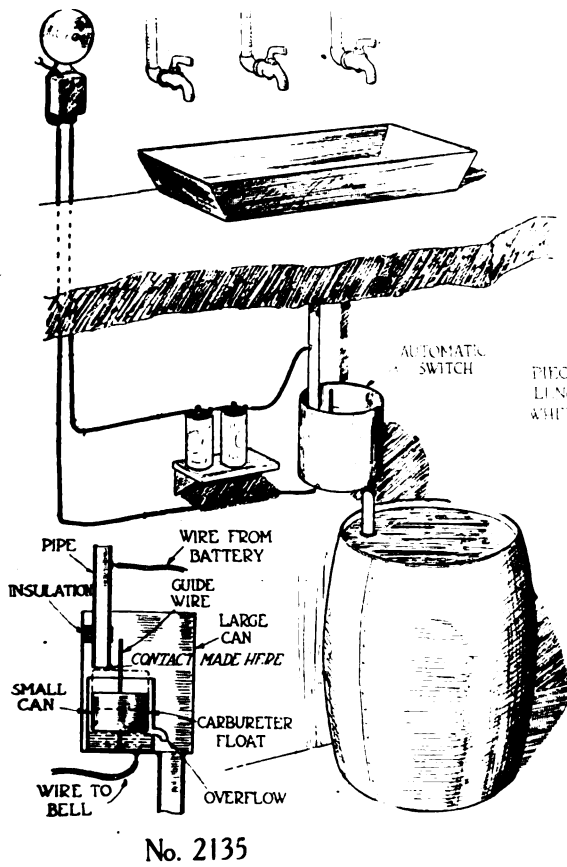
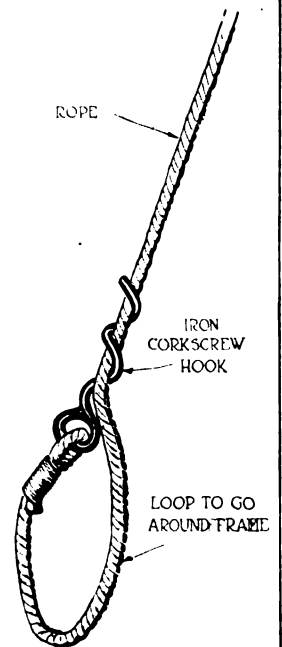
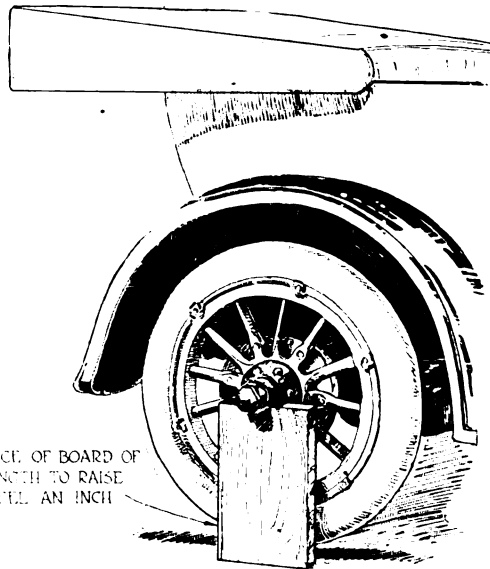
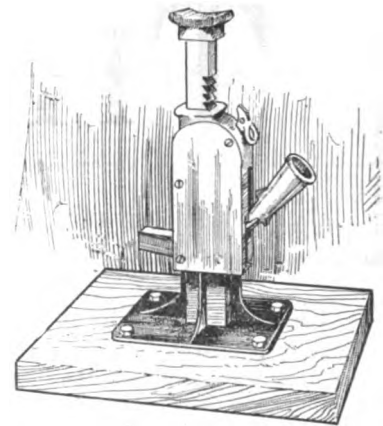
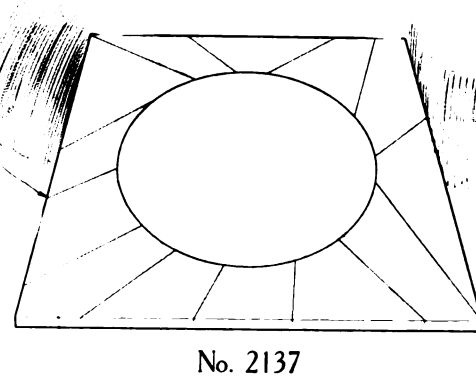
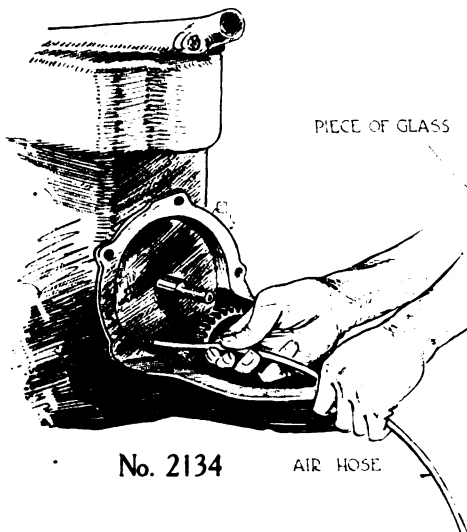
## The Feminine Appeal

HARRY G. AUSTIN, manager of the Washington Oakland Co., recently bought a late fashion magazine for Mrs. Austin and, as is the habit of men, forgot to take it home. In cleaning the salesroom the janitor placed the magazine on the reading table that stands on the Oakland salesfloor.

The result was that the reading table commenced to attract the attention of the women prospects that came to the salesroom to see the 1919 models. That gave rise to an idea. Austin figured that if women were so much interested in the new styles of motoring apparel he would combine the latest styles with a display of his cars and reap the benefit of the natural curiosity.

Accordingly, arrangements were made with the leading woman's shop of the city to have several of their latest advance models in motoring coats displayed on living models with Oakland cars as backgrounds, "just to make the picture seem complete," according to Austin's explanation.







# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### Lien Covers Gas Pump

That a landlord's lien for rent in a state like Texas, where the law gives the landlord a lien upon all property of a tenant, attaches to a gasoline pump, tank, etc., in front of a building, was decided in a recent case.

In this case a man leased a lot to the Kauk Automobile Co. On the lot was a brick building. This building was in the business section of the city and extended up to and fronted on a cement sidewalk 12 ft. wide, running in front of the building. There was a space of unoccupied ground 4 ft. wide between the sidewalk and curb of the paved street in front of the building.

### Awning Covered Pump

The tenant was engaged in the business of selling automobile supplies, accessories, oil, gas, etc., and installed a filling station in the vacant space between the sidewalk and the curb. This filling station consisted of a tank buried in the ground and a pump with the usual attachments above the ground to discharge the gasoline from the tank and to automobiles waiting to receive it.

There was an electric light on the pump, the wiring of which ran down through the pump and under the cement sidewalk to a connection with the electric wiring of the building. The awning of the building extended some 8 ft. over the sidewalk and the front of the building opened directly on the street. It was decided that the landlord's lien on the pump and tank was good.

### Misrepresentation

The Supreme Court of North Dakota says that when a dealer represents that he is selling goods of a particularly well-known brand, when as a matter of fact he does intend to supply goods of the brand the buyer wants to buy, the contract can be considered null and void. There is then no real contract, because both parties have not the same idea regarding the goods which are to be sold—*Elliott vs. Lish*, 163 Northwestern, North Dakota.

### Case of Sham Transfer

In the case of Seamless Rubber Co. vs. Reed, which reached the highest court in Massachusetts recently, it was decided that a jury could determine whether there was a sham transfer of a business

where a party doing business under a trade name transferred his business by a bill of sale to a minor, but continued to work at the place of business.

### Buying a Garage

Editor Motor World: I would like to ask your advice in regard to a garage that I would like to have for this summer, two of us going in together, both experienced in cars, and I have had charge of a garage two years.

The garage is at York Beach, Maine, and is on the state road from Boston to Portland. The owner built it as an investment. He does not know anything about automobiles but he ran it last summer and cleared \$4,000 just through the summer months. The building is 50 x 60 ft., is a 60 ft. front and has two doors. There is a gas tank and pump, a portable air compressor and work bench.

### Did Only Repairing

The owner did repairing only that one man could do. Now I figure we can make more money than he did by doing repair work the whole year and selling automobile supplies. We have some money but we have made plans to buy tools and supplies. We are going to hire a welding outfit and other things. What I want to know is this:

The owner of this garage won't lease it to us. He wants his money back. He wants \$4,000 for everything. There is a mortgage of \$925 at a Portsmouth, N. H., bank that can stand. Is there any way we can get the garage?—Arthur W. Clark, Medford, Mass.

**Answer**—I have read over your letter very carefully and I cannot see that there is any question of law which you have to ask. Of course you might go ahead and put all your money in the purchase of this business and buy your machinery, tools, etc., on a conditional bill of sale. One cannot go very far now-a-days without money.

### No Misrepresentation Here

The Supreme Court of Washington, in a lately decided case, held that the mere fact that a dealer represents a car to be a six-cylinder roadster of the latest type and model does not give the buyer the right to rescind the contract on the ground of fraud if models other than roadster models have been announced before the sale is made.

The buyer in this case brought suit to rescind the sale of the automobile, claiming that it had been represented to be a "six cylinder roadster of the latest type and model."

The buyer claimed that it was not the latest type and model, and that it should be allowed to recover back the \$1,231.80 paid for the car on the ground of fraud.

The dealer, of course, denied that there was any fraud and when the roadster was tendered back, refused to accept it.

The court found that the car had been so described and that the purchaser had bought it relying on the description. As to the claim of the buyer that "as a matter of fact the roadster delivered to him was not a roadster of the latest type and model but was a 1917 automobile and was actually worth less than the sum to have been paid," the court decided that although the "19" series of cars had been announced, as they consisted of a five-passenger "four," a five-passenger "six" and a seven-passenger "big six," but no roadster, there was no fraud or misdescription, as the roadster, in fact, was the latest type and model at the time the sale was made.

It appeared in the trial of the case that the dealer, after the sale of this particular car, had sold seventy-five more roadsters of the same type and model and had one or two loads more on the way. The court therefore found that the representations were not even inconsistent with the facts and the dealer was absolved from blame, as it had not given any information regarding future models because it had none.—*Bates against Little*, 179 Pacific, Washington, 794.

### Can't Make Charge

Editor Motor World: A garageman agrees to repair a car for \$50. Parts that needed to be repaired were fender, radiator, axle, spring, thermostat and headlight. All parts were to be paid for by owner of the car. The garageman took the radiator and had it repaired outside his shop. Could he add an extra charge for fixing radiator?—Levin & Levin, Hartford, Conn.

**Answer**—I do not see how you would be justified in making an extra charge for one part even though you have it repaired outside of your own shop where you agreed to fix or repair a number of parts for a certain stipulated amount. If you made a contract you are bound by it even though you may lose money in this particular case.



# News Letters from Busy Sections

## The Week in Indianapolis

By John B. Orman

Manager of the Indianapolis Automobile Trade Association

After the great noise of Home Coming Day, and the final touches being put on the Victory Loan, it seems that the automobile business is lying down to take a short nap so far as unusual activities are concerned.

About the most important item is the announcement of the Spake Machine Co. that it is going to market a two-passenger car to retail at a price of \$295. The company announces that it will go into production in about four weeks. The car is a racing type roadster, equipped with a Spake 9-13 de luxe motor, a twin-cylinder air-cooled engine, developing 9 to 13 hp. Fully equipped the car will weigh 700 pounds, and have a wheel-base of 90 in. Tires will be 28 x 3, with bodies painted a battleship gray. The seats will be of the bucket type, the body of pressed steel. There will be a steel carrier box to carry the batteries and tools, while Atwater Kent with hand control off the dash will be the ignition system.

### Must Move Curb Tanks

A short time ago our city council issued an order that all curb gasoline pumps were to be removed from the sidewalks. A local dealer filed a suit seeking to enjoin the city from interfering with or removing a gasoline pump or tank from the sidewalk, in front of his place of business. Briefs were filed in contention of facts set up by the parties, and a demurrer was filed by Samuel Ashby, corporation counsel.

The demurrer was to-day sustained in the Superior Court by Judge Linn D. Hay, supporting the contention that the city had the right to order the removal of a gasoline pump or tank before the filling station and garage of the local dealer, which means, unless carried to a higher court and decision reversed, that all curb gasoline pumps located within a certain zone, which zone about covers the business section of the city, will have to be removed, and motorists will be compelled to buy their gasoline from filling stations back in the premises off the curb.

Dealers cannot carry any large amount of gasoline in their stores, on account of insurance, so it seems that unless relief is found in the higher courts those dealers who have been maintaining gas stations in front of their stores will be compelled to go out of the gasoline selling business. Several of the big oil companies maintain beautiful stations

here and it is believed that they are behind the movement to eliminate curb stations.

Following the reports of strike troubles at the Willys-Overland plant, Toledo, Mayor Chas. W. Jewett has sent a telegram to John N. Willys, inviting him to move his plant to Indianapolis. Mayor Jewett sent the following wire:

"City of Indianapolis, where your industry was born, invites you back to your old home, where ideal labor, manufacturing and transportation conditions prevail. The whole official family and civic family of Indianapolis will welcome you with open arms."

The telegram Mr. Willys sent in reply to the invitation was as follows:

"Deeply appreciate your telegram which reached me here (in New York) and thank you for your generous offer. Am confident, however, that those of our employees who left have been misled and will eventually realize the justice of our position, as do now nearly all of our Toledo citizens. Your invitation is an evidence of friendship that will not be forgotten."

### Scouts to Hear "Rick"

Captain Eddie Rickenbacker will arrive in Indianapolis May 29, and in the evening will deliver a lecture under the auspices of the Boy Scouts. At noon on May 30 the Chamber of Commerce will give a luncheon at which the Captain will be the guest of honor. Reservations have been made for 400 guests, among whom will be Carl Fisher, president of the Motor Speedway; Jas. A. Allison, treasurer; Arthur Newby, vice-president; the American Automobile Association will be represented by Richard Kennerdell, F. A. Croselmier and Clifford Ireland. Others will be E. C. Patterson, W. S. Gilbreath, G. G. Sinsabaugh, and David Beecroft.

## The Week in Worcester

WORCESTER, May 17—The J. W. Maguire Co., agents for Pierce-Arrow cars and trucks, has purchased land on Park Avenue, where it will build a large salesrooms and service station, which will be ready in the Fall.

The H. J. Murch Co., Cadillac dealer, is to move also to Park Avenue into a new home in the near future, and this will mean the moving of motor row from Main Street.

H. L. Bossa & Co., Inc., has just been organized to conduct a garage and service station business here. It is a \$25,000 corporation comprising Harry L. Bossa, Howard L. Pomeroy and W. S. Pomeroy.

## The Week in Boston

BOSTON, May 17—The Vim Motor Truck Co., Philadelphia, has taken over the sales of Vim trucks for New England to handle the business as a branch. George L. Taggart has been placed in charge of the branch. It was formerly handled through Dunbar, Sanders & Bowen, who market the Oakland here. The new company leased the big Packard Annex on Commonwealth Avenue for a sales and service station, and at the opening of the branch Mayor Peters and representatives from the Governor's office and the Northeast Department of the U. S. Army were present to give the opening a real send-off.

Owen A. Cunningham, who controlled the sales of Wondermist, with headquarters at Boston, has joined the Nemours Trading Corp., New York, as director of domestic sales, and that company has taken over the distribution of the product, and also some other automobile accessories. It is now considering the marketing of a headlight brought out by two Massachusetts Institute of Technology men in Boston.

Joseph S. Downey, for some years with the Boston Cadillac Co. in the used car department, and one of the well known racing drivers of the days of Lowell and Ormond Beach events, has gone into business for himself marketing used cars with headquarters on Braintree Street, Allston.

John L. Snow, of the Peerless, and George L. Osborn, of the Osborn-Mac-Millain Co., are receiving congratulations upon being members of the winning team which won the trapshooting contest from a team sent over from New York to clean up the New Englanders.

A. B. Mann, well known in legal circles here, has gone into the motor business. He has formed the Mann Motor Car Co., and leased salesrooms on Boylston Street to sell the Maibohn.

Arthur Cundy, formerly managing a large service department at Cambridge, is just back from the war, and he is looking for the agency for a car. He brought back the sales rights for an English shock absorber. He is a former president of the Massachusetts Automobile Operators Association.

Vice-President Emlen S. Hare, of the Packard Motor Car. Co., Detroit, was a guest of the Alvan T. Fuller organization at a dinner on Thursday evening, at which he spoke on good roads and motor truck topics. It was held at the B. A. A. and attended by the sales and service force of the Packard organization from Boston, Portland, Manchester and other New England cities; those present included Congressman Alvan T. Fuller,



Robert B. Parker, J. W. Patterson, D. O. Earle, I. H. Boles, C. P. Cary, P. W. Danforth, C. S. Crummett, C. G. S. Sheldon, D. E. Fitzgerald, E. W. Allen, J. W. MacRobert, W. P. Naylor, N. F. Neer, B. L. Affleck, H. A. Bonnell, C. R. Thompson, J. T. Pace, D. P. Lowell, A. K. Osden, A. N. Davis, J. P. Kane, E. W. Howe, W. Durfee, C. E. Norris and C. L. Evans.

President J. H. MacAlman of the Boston Automobile Dealers' Association and John H. Johnson, of the Buick Boston Co., have been appointed on the committee to put over the Salvation Army drive among the motor trade the coming week. Johnson has just returned from a Spring trip to French Lick Springs.

Russell A. Field, of the Martin Kelley Agency, came to Boston last week and took up the cudgels for the motor dealers and manufacturers on the question of publishing news regarding the automobile trade. For several months, except during the week of the motor show, the Boston papers, with one exception, have had a ban on regarding motor stories. Field went to each publisher and got his views, and as a former newspaper man who handled the automobile department for a Brooklyn paper, he said that it did not seem fair to harpoon the entire motor news because there was such a load of slush poured in.

#### Lift Ban on Motor News

After two conferences the ban was lifted, and now each paper will use two columns of motor news each week, which should eliminate a lot of the mediocre stories written merely for publicity, and which it was agreed was not worth printing anywhere.

N. F. Neer, for several years with the Curtis Publishing Co., with headquarters at Philadelphia, has come to Boston as advertising manager for Alvan T. Fuller, who handles the Packard in Eastern New England.

President J. S. Hathaway, of the Boston Commercial Vehicle Dealers' Association, manager of the White branch, has been busy with conferences dealing with motor truck fees, at which representatives of the legislature and the Highway Commission have been trying to reach a solution.

#### Bay State A. A. Entertains

Fred T. Moore, manager of the New England branch of the Goodrich tires, who is president of the Bay State A. A., is putting that club on the map with monthly entertainments at which prominent military and civic officials are guests and speakers. The next event on Wednesday evening is expected to be such a live one that it is limited solely to members, as there would not be room for guests.

R. W. Harris, formerly with the Gray & Davis Co., who is now New England distributor for Oldfield tires, has opened salesrooms on Boylston Street, Boston, next door to the Pierce-Arrow and the newly opened Lexington agency, which makes quite an addition to old motor row.

## TO TAKE TRUCK SHOW OVER ROADS TO FARMS

### St. Louis Trade to Have Traveling Exposition of Over 100 Vehicles

ST. LOUIS, May 17—Most of the details of the St. Louis Motor Truck Expedition, which will bring a motor truck show to the farmers and residents of small towns in Missouri and Illinois, have been arranged. The expedition is under the auspices of the Commercial Car Bureau of the St. Louis Automobile Manufacturers' and Dealers' Association.

There will be 100 or more trucks in the train which will leave St. Louis, June 2, at 6 a. m., for St. Charles, La., and Hannibal, Mo.; Quincy, Rushville, Beardstown, Jacksonville and Alton, Ill., back to St. Louis. The distance is about 372 miles. To make as many stops as possible, the time for the trip was fixed at seven days.

The committee in charge is composed of L. H. Amrine, chairman, C. E. Lightfoot, C. A. Aldrich, J. N. Magna and J. Dunker. Preston W. Duffy, truck man for the Chevrolet retail store here, will be tour master. He was in motor transport work with General Pershing on the Mexican border.

Speakers will accompany the train and deliver talks on "Modern Transportation," "Good Roads," and other timely topics. A moving picture projecting machine and screen will be brought along, and it is proposed to show films illustrating the work of trucks and good-road propaganda on the public squares of towns where the expedition rests at night. There will be no night driving.

The schedule of miles per hour will depend upon road conditions, not to exceed 10 m. p. h. Any size truck may be entered up to and including two tons. Passenger cars will be barred, except official cars necessary to operate the train. Customers will be invited to take part for such benefit as they may derive from advertising their business.

Entries close May 26, and co-operation of dealers is asked to put St. Louis on the map as a truck distributing center and to visualize the needs of modern transportation.

The idea of the expedition originated with Harry G. Moock, business manager of the N. A. D. A. He departs to-morrow night for Detroit, where he will outline to dealers a plan for a similar expedition. Kansas City dealers are also considering the idea.

#### The Week in Springfield

SPRINGFIELD, May 17—H. M. Lyall has taken the agency for Paige-Detroit cars for Hampden and Hampshire Counties with headquarters here, and he has opened sales and service stations at 326 Dwight Street.

The Berkshire Motor Co. has just been formed here by Oliver C. Pease, George C. Belding and E. E. Fuller, all of whom worked in the service department of the Stoddard Motor Car Co. They decided to go into business for themselves and took on the Bethlehem truck for a starter, and they are now in the market for passenger cars. They have located at the corner of West and Plainfield Streets.

A. C. Wigglesworth has secured a permit to erect a salesroom and garage at Chestnut and Franklin Streets which will be one of the largest and best in Massachusetts. It will be fireproof, of concrete and steel, and have accommodation for 150 cars in the garage with ample room for salesrooms on the ground floor.

Johnson Brothers have just taken on the agency here for the Auburn.

#### Ferrier Heads St. Louis Association

ST. LOUIS, May 17—W. L. Ferrier was elected president of the St. Louis Motor Accessory Trade Association at the annual election held last Tuesday evening. Other officers elected were: Vice-president, E. J. Methudy; secretary, Robert E. Lee; treasurer, A. R. Baxter, sergeant-at-arms, C. W. Edwards; directors: John F. Shuford, E. S. Marvin, L. E. Allmon, W. L. Patterson and A. C. Bauer.

A plea for members of the association to keep complete and accurate records of the accessories they sell, using the manufacturers' serial numbers, was made by Chief of Police Martin O'Brien. He said that thefts of motor cars had been detected by means of numbers on comparatively unimportant accessories, when serial numbers of motor body and chassis had been obliterated. Other speakers were George A. Chappell, who recently returned from France, and T. A. Peck, sales engineer of the Pierce Oil Corporation.

#### Simmons to Distribute Jumbo Trucks

NEW YORK, May 19—The John Simmons Co., which is a large firm of exporters and since last August has had charge of all export sales of Jumbo trucks for the Nelson Truck Co., Saginaw, Mich., has become New England distributor as well for the Nelson company. The Simmons company will control all the New England states as well as the northern part of New Jersey, Pennsylvania as far east as Altoona, and the Metropolitan area around New York City. Service and sales headquarters for the East are to be established in Long Island City. The company will operate as both wholesale and retail dealer in and around New York. An organization of dealers throughout the Eastern territory is now being arranged.

#### Des Moines Banquets Rickenbacker

DES MOINES, IOWA, May 19—Eddie Rickenbacker has had another banquet tendered him. This one was by the Motor Trades Bureau of the Des Moines Chamber of Commerce. The bureau hired the Coliseum for the occasion and filled it without any trouble.



## N. A. D. A. HAS TRUCK SALES DIVISION NOW

### *Cartinour in Charge of New Bureau to Help Solve Sales Problems*

ST. LOUIS, May 17—The National Automobile Dealers Association is to help its members sell more motor trucks and trailers. This important work is to be done through a new division of the association known as the Commercial Vehicle Division, of which H. N. Cartinour of the Cartinour-Bowman Co., Indianapolis, Indiana, distributors of Federal trucks, has been made Commissioner. The division will handle all problems that arise solely in the truck-sales trade.

"Many of the N. A. D. A. members sell both passenger and commercial cars," said Harry G. Moock, business manager of the Association, in outlining the purpose of the new division. "In many instances, commercial cars were added after the passenger car lines had been handled successfully and dealers failed to realize that the two presented a different selling problem altogether. Dealers, therefore, became discouraged with their line of motor trucks and dissatisfied with the results of their investment.

"Dealers realize that the two selling problems are different and they are writing to the N. A. D. A. presenting their problems. As the endeavor of the association is to furnish dealers only with the best practical advice possible it was deemed sufficiently important to create the new division and handle the suggestions from the standpoint of money making for the dealer."

Cartinour is working on plans for commercial car sales promotion. Inquiries in regard to the work should be sent to the Commissioner of the Commercial Vehicle Division, National Automobile Dealers' Association, 3124A Locust Street, St. Louis.

### **Tractor Demonstrations for Pennsylvania**

HARRISBURG, May 19—The State of Pennsylvania is to hold four two-day tractor demonstrations during the coming season. These will be held in different sections of the state. Representatives of various tractor companies have agreed on this schedule. There is a little uncertainty regarding the rules covering these demonstrations, as some of the tractor makers want to furnish their own rules and the State Department feels that it should have a voice in framing them.

### **Folger Heads Charlotte Dealers**

CHARLOTTE, N. C., May 19—Lee Folger, sales manager of the C. C. Codrington Co., Buick distributor, was elected president of the Charlotte Automotive Trade Association at the annual meeting

of that body May 12. Other officers elected were: Vice-president, H. S. Dowling, Dowling Motor Co.; secretary-treasurer, R. E. Saunders; directors, H. L. Morrow, Osmond Barringer, Joe Fitzsimmons and H. M. Clark.

### **That Lock Switch Litigation**

Editor Motor World: Last week you published a notice to the effect that the K-W Ignition Co., of Cleveland, Ohio, had won its switch litigation against the Goodrich-Lenhart Mfg. Co. The facts of the matter are as follows:

The suit brought by Warren R. Cox, the owner of the patents under which the K-W switch is made, and our suit against Warren R. Cox were amicably settled. Under the terms of the settlement agreement which we made with Mr. Cox, we are not only permitted to repair any lock switches that we have sold in the past or may sell for an indefinite period of time, but we also are absolutely free to sell a great many thousand lock switches, the amount being so large that under present conditions we can supply our trade for a long period of time, which we approximate to be somewhere in the neighborhood of two years.

In addition to the above we would direct attention to the further fact it was agreed under penalty that there would not be any interference with our right to sell these lock switches, so that our trade is well protected.—Goodrich-Lenhart Mfg. Co., Philadelphia, Fred Ihreg.

### **N. A. C. C. Will Fight Chassis Tax**

WASHINGTON, May 19—The National Automobile Chamber of Commerce has filed a protest with the Treasury Department against the rulings on the tax for chassis. Under the present ruling if a manufacturer sells a chassis directly to a consumer there is one tax of 5 per cent paid. If a manufacturer sells a chassis to a dealer there is no tax paid by the manufacturer if the dealer knows for what purpose it will be used and the dealer fills out certain necessary papers. If, however, the dealer is unable to definitely specify how the chassis will be used, by whom, etc., the manufacturer pays a tax of 5 per cent. If the manufacturer sells the chassis to a distributor and he in turn sells to a dealer, both pay a tax. If a dealer sells a chassis he pays no tax unless he attaches a body to it, when it is regarded as a manufactured vehicle and again becomes subject to taxation—3 per cent for a truck and 5 per cent for a passenger car. It is expected that there will be some time required before the tax department will give a new ruling on this.

### **Chevrolet Canadian Distribution from Winnipeg**

WINNIPEG, MAN., May 19—Winnipeg will soon be made the distribution center for the entire Canadian west for Chevrolet cars by means of the establishment of zone distribution headquarters here.

## PROTESTS RULING ON MOTOR TRUCK CHASSIS

### *N. A. D. A. Wires Internal Revenue Bureau of Injustice of 5% Tax*

ST. LOUIS, May 17—A vigorous protest against the ruling of the International Revenue Bureau that a truck chassis is a "part," and as such is taxable at 5 per cent, is being made by the National Automobile Dealers' Association. In addition to a protest to Commissioner Roper, the association has asked the secretaries of 57 dealers' associations throughout the country not only to wire protests on behalf of the organizations but to have each individual member do so. The ruling is effective Feb. 25, although just announced.

The telegram of the N. A. D. A. to Roper follows:

"Treasury decision, article 15, regulation 47, classifying truck chassis as a part is contrary to all sales usages. Truck chassis is a sales unit and is the basis of all truck sales regardless of the type or kind of body used. Therefore, classification as a part is not only an injustice, but greatly impedes truck sales and is a penalty on business. Revision of decision, therefore, should be made so that truck chassis when sold complete as a unit takes 3 per cent tax, which we believe was intended when the 1918 revenue bill was framed."

Here are the reasons Business Manager Moock gives for a revision of the ruling:

"Dealers have been selling on the presumption that a chassis is a truck and, therefore, taxable at 3 per cent. Thus the ruling will cost the dealers thousands of dollars. The 1918 decisions of the revenue bill classified the chassis as the unit of sale. For three months the dealers have been parting with truck chassis with only a 3 per cent tax against them, as passed on by the manufacturer. It is very probable that the manufacturers, because of their contracts, will be able to collect the additional 2 per cent from their dealers, but the dealers, having completed the transaction with their customers, will be unable to collect the 2 per cent additional thus passed on."

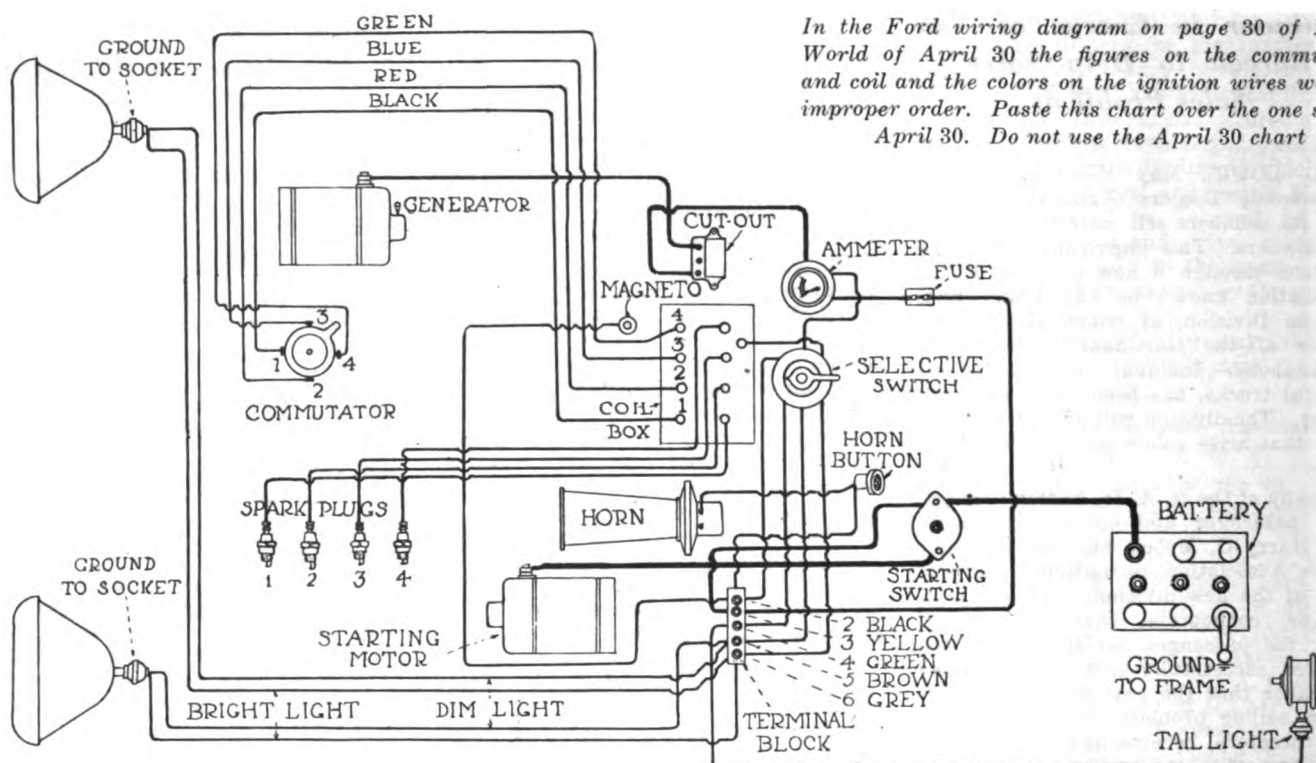
Moock also sent a telegram to George Graham, chairman of the motor truck division, National Automobile Chamber of Commerce, advising him of the protest and stating that the N. A. D. A. would send a delegation to Washington if necessary.

The local dealers acted quickly on the suggestion of the association. Telegrams were sent yesterday by nearly every man in St. Louis selling trucks.

A special war tax bulletin has been sent by the N. A. D. A. to its members, giving complete information on the decisions of the treasury department on the application of the new tax.



# Ford Repairmen—Corrected Diagram



## Advertising Service for Dealers

TOLEDO, May 16—A merchandising and advertising service for automobile dealers intended to build up the dealer himself as the predominant factor in trade circles in his community is something new to be offered to the trade by the John O. Munn Co., which will operate as a specialist in dealer advertising. The new company is headed by John O. Munn, who for 9 years was assistant advertising manager for the Willys-Overland Co. The Munn merchandising and advertising service will provide the dealer with publicity, merchandising counsel, advertisements and sales advice.

## Still Larger Invasion of Canada by General Motors.

TORONTO, May 19—General Motors of Canada, Limited, is the name of the new corporation recently organized with an authorized capital of \$10,000,000. R. S. McLaughlin, president of the McLaughlin Motor Car Co., Ltd., the Chevrolet Motor Car Company, Ltd., both of Oshawa, Ontario, and a director, vice-president and a member of the executive committee of General Motors Corp., has been elected president.

Extensive additions to the Chevrolet and McLaughlin plants at Oshawa are under way. When completed McLaughlin and Chevrolet cars will be Canadian-made throughout. A \$6,000,000 plant is being erected on a section of the 38-acre site recently purchased by General Motors at Walkerville. When the entire plant is constructed it is the intention of the

new Canadian company to build the entire General Motors automotive line in Canada for the Dominion and Imperial markets.

## Waterloo Becomes Black Hawk

WATERLOO, IOWA, May 19—The Black Hawk County Motor Trades Bureau will take the place of the Waterloo Automobile Dealers' Association. The new association is larger in scope than the old, for, as its name indicates, it will include tradesmen from every city in the country. Officers are: President, C. A. Clark; vice-president, A. L. Alexander; secretary, Vern Orr; treasurer, Harry Bird.

## Bumper Coming from Owosso

OWOSSO, MICH., May 16—W. S. Booth, formerly of the Field Mfg. Co. and Biggam Trailer Co., has organized a new company and will begin the manufacture in Owosso of a bumper which he recently patented. He hopes to make 10,000 bumpers this summer. The A. E. Palmer & Sons Co. will make the bumpers for him until he gets his own plant running. Mr. Booth was at the head of a Detroit manufacturing concern before the war.

## AC Speedometers Coming

FLINT, May 17—The Champion Ignition Co., manufacturer of the AC spark plug, has decided to manufacture speedometers. Production will start this month. The new product is of the magnetic type.

## New Plant for Liberty Cars

DETROIT, May 17—Percy Owen, president of the Liberty Motor Car Co., has approved plans calling for a new factory which will be located in the district adjacent to the Hudson Motor Car Co., the Continental Motors Co., Wadsworth Mfg. Co., Maxwell-Chalmers and a number of other automotive plants.

With the new factory the company hopes to double its present production. Its present plant, the old R. C. H. corporation group of buildings at the foot of Lyncaste Avenue, is proving unequal to present manufacturing demands.

## New Home for Maibohm Motors

SANDUSKY, OHIO, May 16—The Maibohm Motors Co., moving here from Racine, Wis., where its plant was destroyed by fire, will occupy a new factory having 75,000 sq. ft. of floor space. The plant will be 620 x 120 ft. It will be of one story, sawtooth design and modern fireproof daylight construction. It will have a capacity of 50 machines daily.

## More Capital for Tower Truck

GREENVILLE, MICH., May 15—The Tower Motor Truck Co. has increased its capitalization from \$200,000 to \$500,000. New buildings will be erected at once to accommodate production increases on both the 2- and 3¼-ton models. The sales department of this company states that increased distributing facilities have brought about a demand for trucks which makes it impossible for the present plant to keep up with orders.



## UNIONTOWN RACE TO MILTON AT 96½ M. P. H.

### Duesenberg Pilot Takes 112-Mile Sweepstakes—Chevrolet Second, Mulford Third

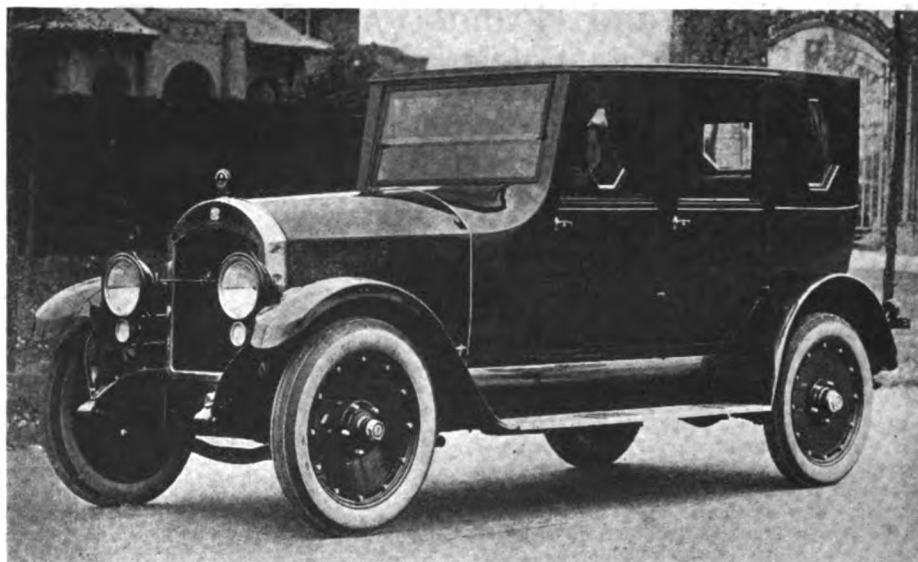
UNIONTOWN, PA., May 19—Driving a non-stop race with competition keen every lap, Tommy Milton won this afternoon's Victory Sweepstakes of 100 laps, 112½ miles, a purse of \$3,000 and his first leg on the Universal trophy cup. He made the grind in a Duesenberg in 1:10:09.32 at an average speed of 96½ m.p.m. Second honors went to Louis Chevrolet and third to Ralph Mulford, each driving Frontenacs.

The driving of Milton, Chevrolet and Mulford was the most spectacular witnessed here since the Speedway was opened 3 years ago. From the first lap the three cars stepped away from the pack and lap after lap were separated only by car lengths. So much were they in the lead, Mulford, driving third in the 87th lap, went to the pits for a tire change and returned to his old position.

Chevrolet had the pole position and led the field for the first four laps when he gave way to Mulford, who held it until the 48th. For the first half of the race Milton was content to drive an easy third, being at times a half lap behind Mulford and Chevrolet. At the 35th he commenced to speed up and passed Chevrolet on the 39th, the Frenchman keeping a half car length behind. In the 51st Milton drove into the lead and retained it to the end.

A weakening tire prevented Chevrolet from showing his usual spurt in the fag end of the race. The tire commenced to go down on the 89th, but Louis nursed it along. On the last lap when Milton had already got the flag, the tire blew, but Chevrolet kept speeding along, crossing the tape 21 seconds ahead of Mulford.

The elimination process was commenced in the first lap when Fred McCarthy, driving a Hudson, went to the pits for engine treatment. He re-entered the race but did not figure. Joe Boyer in a Frontenac had a tire change in the sec-



A distinctive new four-door, four-passenger car for all-season use, the Sportsedan, has been brought out by the Cole Motor Car Co. From frame line to roof, the sides are unbroken by any overhanging of the superstructure, new flush panel design being introduced to replace the conventional overhanging construction which has been used in the past. The upholstery is gray or blue mohair velvet. The fittings match the color scheme. Ventilation to accommodate the car to the requirements of both summer and winter driving has been provided by the in-

stallation of automatic regulators to adjust the upper glass panels at each of the doors. There is a heater in the floor. A distinctive feature is the employment of solid rear quarter sections, which are provided with permanent octagonal windows to correspond with the beveled glass panel at the rear of the car. The Sportsedan may be had either in Aero-Gray or American Flag Blue with the solid panels and top in black. Special painting and trimming, or the substitution of wire or steel wheels may be had at extra charge. Price, \$3895.

ond lap but drove a consistent race, following the leaders throughout although a lap behind. Gaston Chevrolet had much trouble with his Frontenac, making several tire changes and tinkering with his engine a number of times.

There were two spills to thrill the crowd, both within a few seconds of each other. Both occurred in front of the grandstand. Joe Thomas in coming out of the northwest turn loosened a tire and spun around the apron several times and finally bumped against the inner-guard rail. A few seconds later on the same lap Toft kicked off a shoe entirely when entering the northeast turn. The tire bounded around the turn but Toft safely landed his mount against the rail. Neither driver was injured.

Fourth place in the race went to Cliff

Durant in a Chevrolet Special; fifth to Joe Boyer, in a Frontenac; sixth to Louis Le Cogue, Roamer; seventh to Kurt Hitke, Roamer; and eighth to Denney Hickey, Stickel Special. Drivers started but not finishing were Omar Toft, Fred McCarthy (Hudson), Wilbur D'Alene and Gaston Chevrolet.

#### More Foreign Drivers Arrive

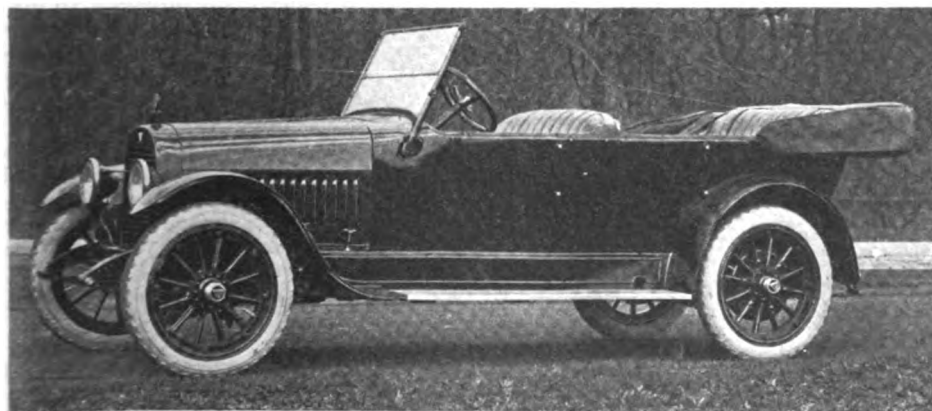
NEW YORK, May 15—Another contingent of French racing drivers for the Indianapolis race arrived on the steamer Espagne to-day and consisted of Louis Wagner and Paul Bablot, who will drive Ballot cars, and André Boillot, a brother of Georges Boillot, the famous French racer who appeared at the May 27, 1914, Indianapolis Race, and who was shot while serving as an aviation pilot in the war. André Boillot will drive one of the Peugeot cars. He will be a driving mate with Jules Goux, who arrived from France some time ago.

#### Champion Schedules Sales Convention

TOLEDO, May 17—The Champion Spark Plug Co. will hold its fourth annual sales convention and banquet on Saturday, May 24, at the factory. The banquet will be at the Toledo Club.

#### Cassidy Adds Tilton Belts

NEW YORK, May 17—The Edward A. Cassidy Co., Inc., has added another account. It has been appointed manufacturers' representative and will act as the sales department for Tilton endless woven belt.



Here is the new Hudson, which has been much refined and sells in its new form for \$1,975



# Resignations and Promotions Place Workers in New Positions

## Prominent Tradesmen Assume New Duties

Roy F. Fike has resigned as manager of the used car department of the American Automobile Co., Tacoma, to become a stockholder and secretary and general manager of the Apperson agency for Oregon, at Portland. The name of the agency has been changed from Apperson Motor Car Co. to Fike-Horn Motor Car Co., with G. F. Horn as president.

Guy N. Stevens, assistant secretary of the Olympian Motors Co., Pontiac, has resigned and been elected vice-president and treasurer of the Rex Tool & Machine Co., Pontiac. Stevens is also assistant secretary of the Power Truck & Tractor Co., Detroit.

Blaine McGrath, former Republic advertising manager, has entered the sales department of the Republic Truck Co. He has established headquarters at Birmingham and will cover Alabama and parts of Mississippi, Tennessee and Florida.

Earl B. Wilson has been appointed director of sales of the Buick Motor Co., Flint. He was formerly manager of the company's Philadelphia branch.

Major B. Hawxhurst, formerly representative of the Westinghouse Co. in Detroit, is now president and general manager of the Automotive Products Co. of Detroit and Chicago.

Edwin A. Godley, formerly connected with the eastern division of the Overland Motor Car Co., and with the Olds Motor Works, has been made general office manager of the Republic Motor Truck Co., Inc., Alma.

Thomas H. House, former Republic traveling representative in northwestern territory, has been appointed Pacific Coast manager. His territory includes Washington, Oregon, Idaho, Montana and parts of Wyoming, Utah, Nevada, California and British Columbia.

C. A. Cole has been appointed general sales manager for the F. C. Meyer Motor Co., St. Louis, Republic truck dealers. For more than a year he was in charge of outside territory sales for this company.

S. L. Garvey has resumed his former position as service manager of the Newell Motor Car Co., Paige and Stearns distributor in St. Louis. He has just returned from France with the 138th (St. Louis) Infantry. He has been in the service since September, 1917.

J. N. Magna has been made sales manager of the Federal Truck Co. of St. Louis.

Frederick W. Smith, formerly manager of the B. F. Goodrich Co., has resigned and will go in business for himself under the name of Central Cut Tire Service Station.

Karl A. Elchhorn, formerly of the Packard Motor Car Co., is manager of the new offices opened in Detroit by James Barr & Co., public accountants, New York City.

Cliff Knoble, formerly advertising manager of the Liberty Motor Car Co., and Norton Brotherton, formerly of Seelye-Brotherton-Brown, advertising agents, have formed a new agency, known as the Brotherton-Brown Co., with offices in Detroit.

C. C. Thomas, sales engineer for the Denby Motor Truck Co., Detroit, has resigned and joined the force of the Field Mfg. Co., Owosso, Mich.

C. T. Turner, president and general manager of the firm of the Turner & Burkett Sales Co., Toledo, has returned from France to resume his former duties.

Lieut. Avery Gilileo and George D. King will have joined the forces of W. B. Rayburn, Grand Rapids, local agent for the Republic.

A. E. Mason, who has been connected with the Chalmers Motor Co. as superintendent of sales in Wyoming and Colorado territory, is now connected with the Western Motor Car Co., Omaha, Neb.

C. V. Lyons has been appointed eastern sales manager of the Nelson Truck Co., Saginaw, Mich. He will have charge of the distribution of the John Simmons Co., New York City.

S. H. Houser, formerly sales manager of the Standley Skid Chain Co., Boone, Iowa, has joined the sales force of the Gray-Heath Co., Chicago.

S. H. Small has resigned as advertising manager of the L. A. Young Industries, Inc., Detroit, to go with the Hession Tiller & Tractor Corp., manufacturer of Wheat Tractors, in the same capacity.

W. E. Manning has joined the sales force of the Samson Tractor Co. He is to represent the Samson in the territory tributary to Kansas City, which embraces the western half of Missouri and all of the State of Kansas.

Stanley K. Wallace has been appointed purchasing agent for the G. Norman Baughman Co., Tampa. He succeeds Mr. Pettlingill, who has severed his connection with the company to go in the truck business for himself.

## NEW YORK STOCK EXCHANGE CLOSING QUOTATIONS MAY 17

	Bid	Asked
Fisher Body, com.....	75½	77
Fisher Body, pfd.....	100	102
Goodrich, B. F., Co., com.....	71½	72
Goodrich, B. F., Co., pfd.....	108	108½
Kelly-Springfield, com.....	122	123
Kelly-Springfield, pfd.....	94	95
Kelsey Wheel, com.....	51	52
Kelsey Wheel, pfd.....	97	98
Lee Rubber & Tire.....	33	33½
Stewart Warner.....	93	99½
Stromberg Carburetor.....	44½	45
U. S. Rubber, com.....	98½	98¾
U. S. Rubber, pfd.....	118½	114
Chandler.....	153	154
General Motors, com.....	184½	185¾
General Motors, pfd.....	90½	91½
General Motors, deb.....	90	90½
Maxwell, deb.....	45½	46
Maxwell, 1st pfd.....	68½	69
Maxwell, 2d pfd.....	35	35½
Pierce-Arrow, com.....	51	51½
Pierce-Arrow, pfd.....	104	105
Saxon.....	9½	9½
Studebaker, com.....	82½	82¾
Studebaker, pfd.....	99½	100
Stutz.....	57	57½
White.....	58	58½
Willys Overland, com.....	34½	34¾
Willys Overland, pfd.....	96½	97½

## Perfection Heater Division Sold

CLEVELAND, May 16—The Perfection Heater & Manufacturing Co. has acquired the entire organization of the Perfection heater division of the Standard Parts Co. The new company, which is capitalized for \$300,000, has leased a

building on Carnegie Avenue, near East Sixty-fifth Street, and increased production to 1000 heaters per day. W. A. C. Smith is president, and other officers are: Vice-president and general manager, C. S. Polton, connected for seven years with the Perfection spring and heater divisions of the Standard Parts Co.; secretary and treasurer, F. D. Kellogg. E. L. Jones, for a number of years with the Remy Electric Co. and the Standard Parts Co., will be special factory representative. L. H. Peck, formerly machine tool designer for the Foote-Burt Co. and recently released from aviation service, has charge of engineering and production.

## Foster of Providence Dies

PROVIDENCE, May 15—James A. Foster, one of the pioneer automobile dealers of Rhode Island, died suddenly to-day at Postmere, his home at Warwick Neck. Heart trouble was the cause of death, and although he had been in poor health for a year he attended to business up to yesterday.

Mr. Foster was the senior member of the Foster-Smith Co., state distributor of Winton, Chalmers and Woods Dual Power cars. He was also a member of the Cadillac Auto Co. of Rhode Island handling the Cadillac, and the Broadway Sales Co., distributor of the Dodge.

## To Make New Truck Attachment

DETROIT, May 15—William Coatworth and M. A. Zoulek have formed the Coatworth & Zoulek Mfg. Co. here to make a pulling tread truck attachment. This attachment will be made for all sizes of trucks, and it is said it will enable them to run out of ruts and mud-holes on their own power. It is used on both rear wheels, providing a track on which the wheels run, and is made of hardwood block, with pipe spacers between them, through which a steel cable passes. The shoes provide traction, and not power, and are 4 ft. in length, weigh 16 lb., can be attached to any truck, and are made to correspond with the width of the tire.

## Profits for Columbia Employees

DETROIT, May 17—The Columbia Motors Co. is installing a profit-sharing plan through which it is proposed to distribute stock in the company to every worker and department head. The company has set aside \$150,000 treasury stock and this has been placed at the credit of the workers.

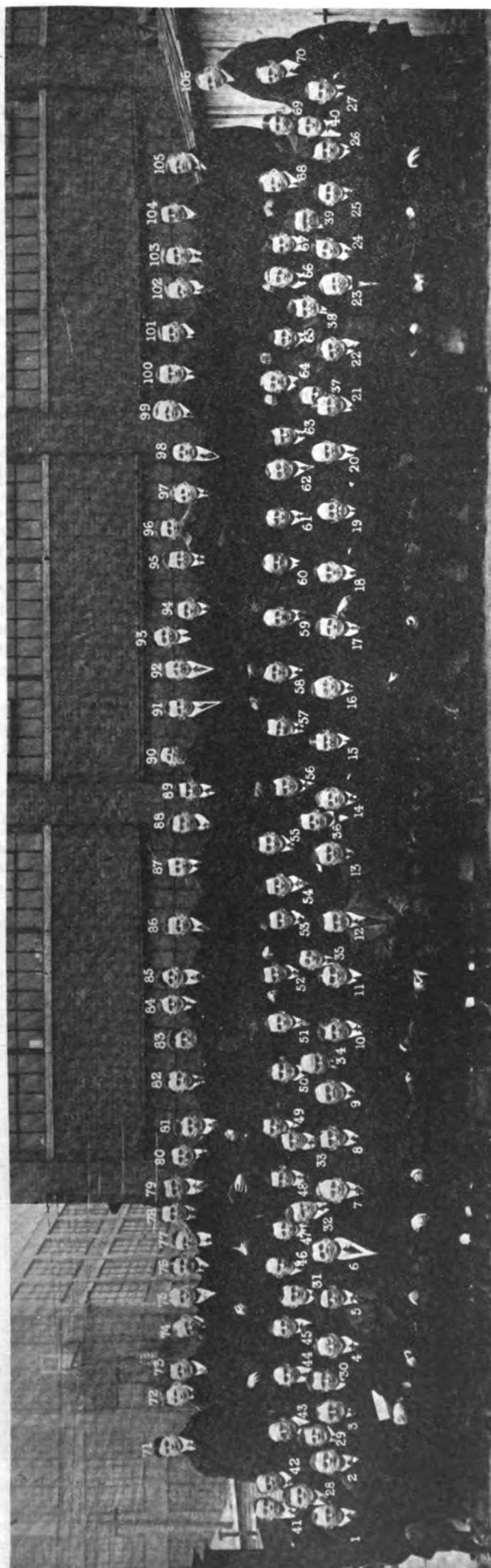
Every employee who has been in the service of the company one year and who has been recommended by his foreman as a dependable and trustworthy employee will share in the profits. The stock will be issued directly to the employee to do with as he pleases.

## Additional Road Construction Planned

WASHINGTON, May 16—The U. S. Forest Service plans to construct 1643 miles of roads during 1919 at an expenditure of \$12,000,000.



## Some of Those Who Attended the Recent Willard Storage Battery Convention



1. R. C. Bridge, Dist. Mgr., San Francisco.
2. H. H. Hime, Ser. Sta. Mgr., Indianapolis.
3. C. S. Whitney, Dist. Sales Engr., Chicago.
4. H. M. Adams, Dist. Mgr., New York.
5. H. M. Prewett, Dist. Mgr., Detroit.
6. I. A. Kuhn, Dist. Mgr., Cleveland.
7. G. M. Griffith, Gen. Acct., Cleveland.
8. A. E. Harrold, Asst. Mgr. Mfrs. Sales, Cleveland.
9. C. H. Fritel, Dist. Mgr., Chicago.
10. J. S. Dunbar, Dist. Mgr., Atlanta.
11. D. C. Gould, Dist. Mgr., Indianapolis.
12. N. G. Wolf, Dist. Mgr., Minneapolis.
13. S. S. Jenkins, Dist. Sales Engr., Detroit.
14. T. R. Cook, Chief Engr., Cleveland.
15. R. C. Norberg, V. P. and Gen. Mgr., Cleveland.
16. T. A. Willard, President, Cleveland.
17. W. W. Wyneken, Sales Mgr., Cleveland.
18. H. S. Bentley, Mgr. Sales Promotion, Cleveland.
19. H. J. Stiles, Sec. & Treas., Cleveland.
20. R. M. Nightingale, Mgr. Mfrs. Sales, Cleveland.
21. M. M. Twombly, Traffic Mgr., Cleveland.
22. J. T. Foster, Mgr. W. S. B. Co. of Texas, Dallas.
23. L. Sears, Train Lighting Dept., Cleveland.
24. W. K. Elliott, Mgr. Branch Stocks, Cleveland.
25. L. G. Baldwin, Mgr. Order Dept., Cleveland.
26. G. Howatt, Mgr. Service Dept., Cleveland.
27. C. E. Murray, Sales Engr., Detroit.
28. T. H. Zirbel, Dist. Rep., Minneapolis.
29. I. K. Schnallier, Asst. Sec. & Treas., Cleveland.
30. S. W. Rolph, Cleveland.
31. F. McGary, Dist. Rep., Chicago.
32. A. B. Kimball, Dist. Rep., New York.
33. J. L. Shannon, Asst. Dist. Mgr., Chicago.
34. J. J. Henderson, Mgr., Rochester.
35. J. W. Sebenthall, Dist. Rep., Chicago.
36. R. H. Sheeders, Asst. Dist. Mgr., Indianapolis.
37. J. B. Cadle, Sales Eng., Cleveland.
38. C. T. Klug, Dist. Sales Engr., New York.
39. W. W. McCarthy, Dist. Rep., Indianapolis.
40. F. L. Kulow, Purchasing Agent, Cleveland.
41. W. J. Bratton, Dist. Rep., Minneapolis.
42. C. F. Lord, Asst. Sales Mgr., Cleveland.
43. E. W. Fend, Mgr. Ser. Sta., Dept., Cleveland.
44. L. M. Madril, Dist. Rep., Indianapolis.
45. Harry Espey, Dist. Rep., Chicago.
46. E. H. Arnold, Dist. Rep., New York.
47. W. S. Wood, Dist. Rep., Chicago.
48. M. C. Diller, Dist. Rep., Chicago.
49. O. Benzing, Branch Mgr., New York.
50. F. F. Jones, Dist. Rep., Chicago.
51. I. R. Wentworth, Ser. Sta. Mgr., Chicago.
52. H. C. Love, Ser. Sta. Mgr., Dallas, Texas.
53. F. D. Prentice, Dist. Rep., Minneapolis.
54. W. C. Holbrook, Asst. Dist. Mgr., Minneapolis.
55. C. F. Benner, Dist. Rep., Cleveland.
56. J. R. Kennally, Mgr. Boston Ser. Sta.
57. W. C. Dennison, Jr., Ser. Dept., Cleveland.
58. H. English, Asst. Credit Mgr., Cleveland.
59. W. W. Baranowski, Export Mgr., Cleveland.
60. W. S. Dewey, Dist. Rep., New York.
61. A. J. Strong, Dist. Rep., New York.
62. Albert J. Hodgdon, Dist. Rep., New York.
63. O. W. A. Oetting, Special Engr., Cleveland.
64. H. M. Richardson, Dist. Rep., Detroit.
66. E. L. Meyers, Ser. Sta. Mgr., Detroit.
67. R. N. Cameron, Asst. Dist. Mgr., Detroit.
68. L. J. Riehl, Dist. Rep., Detroit.
69. E. M. Coe, Sales Engr., Detroit.
70. W. D. Conover, Asst. Adv. Mgr., Cleveland.
71. J. H. Grossnickel, Branch Mgr., Cleveland.
72. L. W. Klein, Dist. Rep., Indianapolis.
73. A. H. Kennedy, Branch Mgr., Minneapolis.
74. H. W. Yates, Dist. Rep., Indianapolis.
75. L. W. Ellicker, Dist. Rep., Cleveland.
76. T. W. Bryan, Dist. Rep., Cleveland.
77. E. H. Russell, Dist. Rep., Atlanta.
78. C. R. Middleton, Dist. Rep., Cleveland.
79. S. B. Mellen, Dist. Rep., Atlanta.
80. H. L. Beggs, Ser. Sta. Mgr., Cleveland.
81. A. T. Nutt, Dist. Rep., Minneapolis.
82. Earl N. Webber, Dist. Rep., Chicago.
83. E. M. Sutherland, Dist. Rep., Chicago.
84. R. B. Winship, Credit Dept., Chicago.
85. E. L. Trube, Dist. Rep., Chicago.
86. H. E. Treat, Ser. Sta. Mgr., Minneapolis.
87. W. C. Russell, Rochester Ser. Sta., Rochester.
88. L. R. Porter, Rochester Ser. Sta., Rochester.
89. G. R. Smith, Asst. Dist. Mgr., Atlanta.
90. J. A. Hansbrough, Dist. Rep., Dallas.
91. H. E. Miller, Ser. Sta. Mgr., New York.
92. C. H. Starr, Sales Mgr. W. S. B. Co. of Texas, Dallas, Texas.
93. Wm. M. Lorenz, Dist. Rep., New York.
94. C. F. Hodges, Dist. Rep., Dallas, Texas.
95. Lester B. Knight, Dist. Rep., New York.
96. A. E. Wilson, Asst. Dist. Mgr., New York.
97. R. J. Cook, Sales Engr., New York.
98. E. H. Elsele, Dist. Rep., New York.
99. R. P. Bowman, Dist. Rep., San Francisco.
100. E. R. Hardy, Dist. Rep., San Francisco.
101. B. H. Winks, Dist. Rep., San Francisco.
102. H. P. Lawson, Branch Mgr., San Francisco.
103. C. H. Barnes, Ser. Sta. Mgr., San Francisco.
104. M. P. Barrett, Dist. Rep., San Francisco.
105. R. L. Carter, Dist. Rep., San Francisco.
106. E. B. Reeser, Dist. Sales Engr., Indianapolis.



## SELL YOUR CARS NOW, NEVER MIND DELIVERY

### *New Jersey Association Told This Is No Time to Slow Down*

NEWARK, N. J., May 16—The New Jersey Automobile Trade Association held one of its monthly meetings last evening at the Washington. These meetings are a part of the association plans to make members interested in the association work and make the organization more valuable to the trade.

The meeting was addressed by David Beecroft, Directing Editor of the Class Journal papers, who gave a stereopticon talk on his trip of three months through the factories of England, France and Italy, and over the battlefields, immediately following the signing of the Armistice.

George Blakely of Jersey City, a former president of the association, spoke briefly in favor of the association work. He stated that at this particular time the factories are having an immense amount of trouble with labor and other adverse conditions and that the troubles of the dealer are small in comparison.

He said that this is not time to slow down but that dealers should go ahead and get all the orders they can on their books and worry about getting cars afterwards. He said there will always be a certain amount of shrinkage in orders and that it was up to every dealer to keep going and not slacken his effort in the slightest.

Harry Woodruff, representing the Internal Revenue Department, explained to the dealers that last year they were required by the law to pay a 2 per cent tax on the wages of heirs and employees and that this year it is 8 per cent. This was news to most of the dealers and they were interested in Woodruff's explanation of how they could get from under much of this difficulty, which is explained elsewhere in this issue of Motor World.

### Have You Alien Employees?

NEW YORK, May 16—Have you any alien employees in your place of business? In other words, have you any persons working for you who are not citizens of the United States, or who have not declared their intention of becoming citizens?

If you have, and you are paying them \$1000 or more a year in wages or salary, you will be required to deduct 8 per cent of everything over \$1000 you pay them and turn it over to the Internal Revenue Department. In 1918 it was 2 per cent.

But there is a way to avoid withholding any money from your employees. This can be done by having every alien fill out and sign Treasury Department Form No. 1078 (Rev.). This is a declaration of the citizenship of the alien. It tells what country he is a citizen of, and explains in effect that inasmuch as he may have

had to pay an income tax in the country of his citizenship he should not be expected to pay an income tax to the United States Government as well.

It makes no difference whether the alien is an enemy alien or not. He may be a citizen of Great Britain, of France, or Belgium, or any other country. If he is not a citizen of the U. S. you must either withhold 8 per cent of his pay in excess of \$1000 in 1919, or have him fill out this form, which exempts you of all responsibility.

### Tri-City Lets 'Em All In

BLOOMINGTON, May 15—Membership of the Tri-City Automobile Trade Association, composed of the dealers of Rock Island and Moline, in Illinois, and Davenport, in Iowa, has been opened to all dealers in the counties. In the past there has been a restriction which excluded those outside of the three cities. It is believed that the extension of the scope will be beneficial to both the urban and suburban dealers. Iowa now has a State organization of motor car dealers and tradesmen, known as the Iowa Motor Trades Bureau, and Davenport and Scott County dealers will affiliate with the State body.

### Smith Heads K. C. Roads Body

KANSAS CITY, May 15.—The Good Roads Association of Kansas City took on new life with the advent of J. Frank Smith as its manager. Smith had been manager of the Kansas Good Roads Association. He will have a free hand in his work, the only thing asked of him being that he surround Kansas City with highways.

## \$823,300,000 ROAD BONDS IN 26 STATES

### *Of This Amount, \$177,800,000 Has Already Been Auth- orized in 7 States*

WASHINGTON, May 15—Bond issues planned or approved in 26 states for highway construction total \$823,300,000. Of this, \$177,800,000 have already been authorized in seven states, \$411,500,000 have been referred by legislatures in twelve states to the vote of the people, \$135,000,000 are being considered in four states and three states have voted against measures totalling \$85,000,000.

The issues ratified include Oregon, \$10,000,000; Nevada, \$1,000,000; Utah, \$4,000,000; Wyoming, \$2,800,000; Michigan, \$50,000,000; Illinois, \$60,000,000, and Pennsylvania, \$50,000,000.

Bond issues which will be considered shortly include Alabama, \$25,000,000; Georgia, \$60,000,000; Florida, \$10,000,000, and Virginia, \$50,000,000.

People will vote on highway bond issues in the following states: California, \$40,000,000; Washington, \$30,000,000; Oregon, \$2,500,000; Idaho, \$2,000,000; Colorado, \$5,000,000; New Mexico, \$2,000,000; Oklahoma, \$50,000,000; Texas, \$75,000,000; Minnesota, \$75,000,000; West Virginia, \$40,000,000; Missouri, \$60,000,000; Maine, \$10,000,000, and New York, \$20,000,000.

### Would Restrict Cleated Tractors

HARRISBURG, May 16—Now it is intended by certain state legislators to place restrictions on tractors, as well as



A UNIQUE window display by the Francisco Co., Fresno, consisted of a battleship made up from the stock of automobile accessories handled by the firm and the airplane of sheet fiber. It is electrically lighted at night and equipped with a wireless flash. The electrical effects are the product of the Electric Laboratories, Inc., Fresno, distributors of Exide batteries.



traction engines, in so-called defense of the public highways of Pennsylvania. At a conference at the State Highway Department, on the Eyre bill, prohibiting traction engines, or tractors on state highways, it was unanimously agreed that the provisions, which become effective Jan. 1, 1920, be amended so as to provide for the examination by the Highway Department of all traction or tractor equipment for which a state license shall be asked. Such engines as do not conform with the regulations of the department will be denied a license.

It was further agreed to provide a penalty for any tractor or traction engine not complying with the regulations, a fine of \$25 being provided for the first offense, \$50 for the second offense and \$100 fine and imprisonment for the third offense. It was further agreed by the representatives of the manufacturers and the officials of the Highway Department that experiments be jointly conducted and a careful investigation made of the effect of the operation of tractors bearing cleats. It is now held that cleats should be limited to a width not less than 1 in. at road surface.

#### Auto Supply Reorganized

NEW YORK, May 17—Very shortly the Auto Supply Co., which maintains a Broadway store and does a large jobbing and retail business in automotive equipment, will cease to exist under its present name. John Lurie, Inc., has been formed with a capital stock of \$200,000 to take over the old company which has been in business at its present stand since 1899. Lurie has been principal owner of the company ever since its formation. Associated with him are Harvey W. F. Adams, who long has been general manager of the company, and S. L. Swartz. The company has just completed a very extensive enlargement of its store, which is at 1789 Broadway.

#### Union Motor Truck To Expand

BAYCITY, MICH., May 19—The Union Motor Truck Co. is about to enlarge its business. The capital stock will be increased to \$500,000 and a new factory built at once.

#### Many New Dayton Buildings

DAYTON, OHIO, May 20—Considerable building is being done in this city by the following concerns: George W. Schroyer Co., Cadillac and Pierce-Arrow dealer, and also a jobber; Bochers Automobile Co., Saxon; Dayton Buick Co. The Citizens Motor Car Co., Packard dealer, built last year and the Heathman Motor Co., Franklin dealer, is going to put up a building near the Miami Hotel.

#### Has Equipment Week

PHILADELPHIA, May 17—The Supple-Biddle Hardware Co. is concentrating on the distribution of automotive equipment this month. May 19-24 has been designated as "merchants' week," and the trade has been invited to visit the store and see the stock, which is displayed in the midst of springtime decorations.

## STANDARD RATING FOR TRACTORS PROPOSED

### *S. A. E. Favors Formula Method, Like That Used for Cars and Trucks*

CHICAGO, May 19—To get tractor engine ratings on a more uniform basis, to get more conservative ratings and to get those states of the Union where legislation on tractors is pending towards uniform action were among the subjects brought up at the meeting of the Tractor Standards Committee of the S. A. E., May 9. Representatives of the International Harvester Co., Advance-Rumley, Aultman-Taylor, Parrett Tractor Co., in addition to other members of the committee, including Prof. Chase of the University of Nebraska were present.

After looking over the reports of the Winnipeg, Salina and other demonstrations it appears foolhardy to try with any degree of consistency to rate tractors from the results obtained in field tests on account of the wide variation of conditions.

After considering many proposed plans for bringing this about the committee felt that the best solution at the present time would be a method similar to that used in rating motor cars and trucks, inasmuch as the latter method is used satisfactorily and has been accepted by all the states in issuing licenses. While it is true that a car of one make having the same rated horsepower as a car of another make might out-perform the latter, there nevertheless is a basis upon which to make a comparison.

The new proposed rating would establish a definite single basis on which makers could rate the ability of their tractors and incidentally make it easier for the farmer to make a selection.

Motor car engines are rated on about 11,733 cu. in. displacement per minute per horsepower and from the fact that cars invariably use gasoline and the duty is much lower than tractor engines, it was decided to adopt the following formula, based on about 13,000 cu. in. displacement per minute per horsepower for tractors:

$$\frac{.7854 D^2 L R N}{13,000}$$

where D is the diameter in inches of the bore, L, the length of stroke R, the number of revolutions per minute and N, the number of cylinders.

Under the present rating of tractors the piston displacement runs anywhere from about 9,000 to as high as 16,000 cu. in. per min. per horsepower. An average taken from twelve different makes of tractors shows a piston displacement per minute per horsepower of 12,696, based on the tests at Columbus, Ohio, in 1918. Also the concerns who are making tractors in any quantity come very close to the proposed 13,000 figure. Obviously if the new rating scheme is put into effect, it will mean a change in the rating of some tractors where the displacement is figured on a piston displacement per minute per horsepower of less than 13,000.

#### Levy to Distribute Airplanes

CHICAGO, May 19—Airplane distribution on a large scale through motor car

dealers has commenced with the completion of arrangements by which the James Levy Motor Corp., Buick dealer in Chicago, becomes distributor for the entire central west for the United Aircraft Engineering Corp. of New York. Levy has contracted for 150 Canadian JN-4 training planes and within the last two days has sold eight of them to a Denver dealer and several at retail in Chicago.

These planes are being sold at \$2,500, which is approximately one-fourth to one-third of their cost price, and are part of the equipment bought by the United Aircraft Engineering Corp. from the Canadian Government. They have 90 horsepower, eight cylinder OX-5 "V" type engines, have double control and weigh 1600 lb. They are capable of from 80 to 90 m.p.h. The possible market for planes of this type at a low price is indicated by the results of an investigation Levy made in Chicago which showed that there were 6000 trained pilots in this city alone. One of the planes will be on display this week at the Levy showroom as James Levy is bringing one from Detroit by air within the next few days.

#### Cadillac Sales Manager Quits

DETROIT, May 20—S. C. Howard, sales manager of the Cadillac Motor Car Co., has resigned to take effect June 16. Howard said to-day he was going to stay in the automotive business, but hoped to work for himself. It was rumored that he will be associated with D. McCall White in a new automobile venture. Howard joined the Cadillac company in 1909, coming from the National Cash Register Co., Dayton, where he was considered a production expert. In 1910 he was made assistant sales manager and in 1912 was promoted to sales manager.

#### New Johns-Manville Denver Office

NEW YORK, May 17—The Denver office of the H. W. Johns-Manville Co., has been moved from the Denver Gas & Electric Building to the Iron Building, 1021 Seventeenth Street. Louis H. Inglee remains as manager.

#### \$6,000,000 G. M. Canadian Plant

DETROIT, May 17—Ground has been broken for the \$6,000,000 plant of the General Motors Corp. at Walkersville, Ont. Building plans call for the erection of two structures, 300 x 350.

#### Hill 3A Spark Plug

Through a typographical error, it was stated that the Hill 3A Spark Plug had an electrode of special "tin" alloy, in the description which was published in the April 16th issue, page 98. This is, of course, an error, and the word "tin" should have been "thin." This plug is made by the Hill Insulating & Mfg. Corp., 511-513 West 42d Street, New York.

#### Columbia to Declare Dividend

DETROIT, May 16—The Columbia Motors Co. will shortly declare a 6 per cent dividend.



# COMING EVENTS

## Races, Contests and Tours

Atlantic City, N. J.	May 30	.....	Airplane race, Aeronautic Convention.
Los Angeles, Cal.	May 30-31	.....	Third Annual, Los Angeles-Yosemite gasoline economy run
Richmond, Va.	May 30-31	.....	Dirt track meet, Virginia State Fair Grounds.
Indianapolis, Ind.	May 31	.....	500-Mile Sweepstakes, Indianapolis Speedway.
*Sheepshead Bay, N. Y.	June 14	.....	Speedway.
Atlantic City, N. J.	July 4	.....	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	.....	Speedway.
Cincinnati, O.	July 5	.....	Speedway.
Uniontown, Pa.	July 19	.....	Mid-Summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	.....	Speedway.
*Middletown, N. Y.	Aug. 15	.....	Dirt track event.
Elgin, Ill.	Aug. 22-23	.....	Road race.
Sheepshead Bay, N. Y.	Aug. 23	.....	Speedway.
Uniontown, Pa.	Sept. 1	.....	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	.....	Speedway.
*Allentown, Pa.	Sept. 27	.....	Dirt track event.
Cincinnati, O.	Oct. 1	.....	Speedway.
*Trenton, N. J.	Oct. 4	.....	Dirt track event.
*Danbury, Conn.	Oct. 11	.....	Dirt track event.

\*Tentative dates.

## Meetings and Outings

Washington, D. C.	June 3-6	.....	Pan-American Commercial Conference, Pan-American Union Bldg.
Newark, N. J.	May 21	.....	Spring Golf Tournament, Shackamaxon Country Club, Westfield. New Jersey Automobile Trade Assn.
Chicago, Ill.	June 2	.....	National Gas Engine Assn., Hotel Sherman.
Hot Springs, Va.	June 2-6	.....	Convention, Automotive Equipment Assns., Homestead Hotel.
Philadelphia, Pa.	June 21	.....	Annual Outing, Kugler's Mohican Club, Motor Truck Assn. of Phila., with the Phila. Auto Trade Assn., Automobile Accessories Business Assn. and the Camden Auto Trade Assn.
Ottawa Beach, Mich.	June 23-27	.....	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-25	.....	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

## Foreign Shows

Paris, France	Oct. 15	.....	Grand Palais—International Automobile Manufacturers' Congress.
London, England	November	.....	Olympia—International Automobile Manufacturers' Congress.

## Aeronautical Exhibition

Atlantic City, N. J.	May 1-June 1	.....	Second Pan-American Aeronautic Convention and Exhibition.
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## Tractor Demonstrations

College Park, Md.	May 30	.....	Power Cultivator Demonstration, Maryland State Department of Agriculture.
Denver, Col.	June 10-12	.....	Sectional Tractor Demonstrations. Denver Tractor Club.
Wichita, Kan.	July 14	.....	Automotive Committee of National Implement Assn.
Aberdeen, S. D.	August 18-22	.....	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	.....	Inter-Provincial Plowing Match and Tractor Demonstration.

## Exhibits

Venezuela, S. A.	May 15-June 1	.....	National Exhibit of Venezuela.
Chicago, Ill.	June 2-3	.....	Twelfth Annual Convention, Hotel Sherman, National Gas Engine Assn.

### Your Price Is Too High

(Continued from page 20)

If you find, for instance, that he is wearing a pair of shoes that cost something like twelve dollars ask him if he doesn't find that shoes come high these days, and that while the prices of some shoes are low the kind of shoe a man wants is one that come high, because the lower priced shoes aren't there when it comes to wearing qualities and pride of ownership.

"Then go to some of the things he can't see about the car. Point out how cheap stuffing can be used in upholstery and no one can tell the difference until after the car has worn for a time. Tell him of the good curled hair in our upholstery and why we added to our price to give good goods rather than make a good-looking article that will sell—and that's about all.

"Tell him of the material in the parts he never sees. Tell him that the clevis pin and bushing in the Sennett steering linkage are hardened steel. We could put a common pin in there with a bushing,

but it wouldn't wear so well. He never would know why the thing loosened and had to be fixed, but he would have to pay the repair bill on it and put up with noises and annoyance. To assure him satisfaction we put a hardened pin and bushing in there and still the car doesn't look a bit better and it costs more.

"In our crankcase we put aluminum, which makes the cost higher. We could save money by putting in cast iron, but it would make the car about sixty pounds heavier. This would mean that everywhere the owner went he would be carrying sixty pounds of weight around with him, which would be eating up his tires and his gasoline and reducing his speed. He can get cars with cast iron crankcases if he wants them, but they invariably sell for less than the Sennett.

"Tell him some more about his clothes. Tell him that a shoe to be a good shoe must be made of good thread, good lining and good findings all the way through. The shoe COULD be made with part cheap material, but no good shoe manu-

facturer would make it that way and no wise shoe buyer would ever buy such a shoe.

"Tell him that all through the car are little things that cost more on the first price but save money and increase satisfaction in the long run."

### How a British Dealer Got Back to Business

(Continued from page 17)

were cancelled, solely because \$1,750 was the limit my customers who cancelled could afford.

I was not very worried about this because I also learned at the factory that production would be very small to commence with, and that I should be receiving about half the number of cars I anticipated. So in spite of the lost orders I was still sold out for 1919.

However, I determined that all those orders should not be lost, and I approached a manufacturer who I knew would market a car under \$2,000. After a short time I secured the distributing rights for this car and in consequence I was able to offer my once lost customers something that would meet their pocket.

I got 30 per cent of those orders back again, and a considerable number of fresh ones, so that very shortly I was sold out again, although distributing two makes of cars instead of one.

You may wonder how I lived during this period, because one cannot make a profit out of deposits and no deliveries.

The answer is used cars.

I employed the best man I could find to manage my used-car department, a man who had the value of every used car at his finger tips. He devoted his whole time to buying used cars, and I took care of the selling of them.

I specialized in the make I distributed and some curious things happened. For example, I purchased a used 1914 model for \$200 more than it sold for new, and resold it at \$450 profit, so that the buyer actually paid \$650 more than list price for a five-year-old car.

So great is the demand for used cars in this country to-day that every 1914 model in fair condition will sell from \$100 to \$1,000 more than it cost new.

The best example I know of is that of a Rolls-Royce which changed hands the other day for \$20,000, after five years out of the factory.

Knowing that so many cars had been stored right through the war, I quickly organized my repair works, and these have been full up with work all the time, complete overhauls being the majority of the jobs.

In addition I have completely reorganized my accessory department, which now enjoys a big turnover. I specialized in the supply of tires, knowing that many cars would require these after having been out of use from one to four years.

The above is a very sketchy account of what has happened, and I will write you again soon, telling you how we conduct our sales campaign. Yours very truly, S. Gordon Marshall, London, England.



# Farm Tractors

# MOTOR WORLD GUIDE

# Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Alis-Chalmers	6-12	2,300	.....	W	2	Le Roi	4	4 1/2 x 6	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	4 1/2 x 6	G or K	3-4
Alis-Chalmers	10-18	4,800	.....	W	2	Ow	4	6 x 8	G or K	4-5	Farquhar	18-35	16,000	.....	W	4	Ow	4	6 x 8	G or K	6-7
Alis-Chalmers	18-30	5,300	.....	W	4	Ow	4	4 1/2 x 6	G or K	6-7	Farquhar	25-50	19,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	6-7
Allwork	14-28	4,975	\$1,985	W	4	Ow	4	4 1/2 x 6	G or K	4	Fitch	20-35	6,800	\$2,500	W	4	Climax	4	4 1/2 x 6	G or K	4
American	15-30	4,400	.....	W	4	Beaver	4	4 1/2 x 6	G or K	3	Flour City	14-25	6,800	.....	W	4	Ow	4	4 1/2 x 6	G or K	3
Appleton	12-20	4,900	.....	W	4	Buda	4	4 1/2 x 6	G or K	4-6	Flour City	30-50	10,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	4-6
Atlas	16-26	5,400	1,750	W	4	Waukesha	4	4 1/2 x 6	G or K	8-10	Flour City	30-50	14,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	8-10
Aultman-Taylor	22-43	7,500	.....	W	4	Waukesha	4	4 1/2 x 6	G or K	2	Flour City	40-70	21,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	2
Aultman-Taylor	22-43	12,500	.....	W	4	Ow	4	4 1/2 x 6	G or K	2	Flour City	40-70	21,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	2
Austin	30-60	23,000	.....	W & C	4	Le Roi	4	4 1/2 x 6	G or K	2-3	Frank	12-25	5,800	.....	W	4	Erd	4	4 1/2 x 6	G or K	2-3
Austin	5-10	750	.....	W	2	Buffalo	4	4 1/2 x 6	G or K	2-3	Frank	12-25	5,800	.....	W	4	Erd	4	4 1/2 x 6	G or K	2-3
Austin	12-20	3,500	.....	W	2	Assoc. Mfrs.	4	4 1/2 x 6	G or K	2-3	Fulton	12-25	5,500	1,275	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Austin	15-30	4,500	.....	W	2	Automatic	4	4 1/2 x 6	G or K	4-6	Giant	30-60	24,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	4-6
Auto Tiller	8-16	850	365	W	2	Ow	2	4 1/2 x 6	G or K	2	Giant	30-60	24,000	5,000	W	4	Waukesha	4	4 1/2 x 6	G or K	2
Avery B.	5-10	2,150	550	W	2	Ow	2	4 1/2 x 6	G or K	2	Gle	20-35	6,800	.....	W	4	Ow	4	4 1/2 x 6	G or K	2
Avery Cultiv.	8-16	3,050	.....	W	3	Ow	3	4 1/2 x 6	G or K	2	Go F.	12-22	4,200	1,375	W	4	Waukesha	4	4 1/2 x 6	G or K	2
Avery	12-25	7,500	.....	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Go G.	14-28	4,250	1,458	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Avery	12-25	7,500	.....	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Gray	18-36	6,000	2,250	Dr	3	Waukesha	4	4 1/2 x 6	G or K	4
Avery	14-26	8,800	.....	W	4	Ow	4	4 1/2 x 6	G or K	4-6	Hackney	12-20	2,800	.....	W	4	Field	4	4 1/2 x 6	G or K	2
Avery	18-36	9,250	.....	W	4	Ow	4	4 1/2 x 6	G or K	4-6	Hackney	15-30	7,400	1,395	W	4	Climax	4	4 1/2 x 6	G or K	2
Avery	23-50	12,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	4-6	Hart-Parr	15-30	6,118	.....	W	4	Ow	4	4 1/2 x 6	G or K	2
Avery	40-80	22,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	8-10	Heider	12-20	6,000	1,395	W	4	Waukesha	4	4 1/2 x 6	G or K	2
Bates Steel Oil	15-25	4,000	.....	W	2	Erd	4	4 1/2 x 6	G or K	2-3	Heller	12-20	6,000	1,395	W	4	Waukesha	4	4 1/2 x 6	G or K	2
Bates Steel Mule	15-25	4,000	.....	W	2	Ow	2	4 1/2 x 6	G or K	2-3	Holt	25-40	13,900	.....	W	4	Light	4	4 1/2 x 6	G or K	2
Bean Track Pul	6-10	3,100	.....	W	2	Ow	2	4 1/2 x 6	G or K	2-3	Hudson	12-25	5,000	1,385	W	4	Buda	4	4 1/2 x 6	G or K	2
Beeman	11-4	285	.....	W	2	Ow	2	4 1/2 x 6	G or K	2-3	Imperial	18-36	5,000	2,250	W	4	Climax	4	4 1/2 x 6	G or K	2
Bellair	12-20	4,500	.....	W	2	Ow	2	4 1/2 x 6	G or K	2-3	Indiana	8-16	1,850	900	W	2	Le Roi	4	4 1/2 x 6	G or K	2
Boring	15-30	6,900	1,485	W	3	Waukesha	4	4 1/2 x 6	G or K	2-3	International	5-10	3,300	.....	W	4	Ow	4	4 1/2 x 6	G or K	2
Boas	20-40	7,000	.....	W	4	Model	4	4 1/2 x 6	G or K	2-3	International	15-30	8,700	.....	W	3	Wisconsin	4	4 1/2 x 6	G or K	2
Boas	20-40	7,000	.....	W	4	Field	4	4 1/2 x 6	G or K	2-3	International	6-15	5,000	.....	W	4	Waukesha	4	4 1/2 x 6	G or K	2
Brilliant	12-24	5,000	1,200	W	3	Toro	4	4 1/2 x 6	G or K	2-3	Junior	12-24	6,200	.....	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Capital	15-36	4,000	1,500	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	10-18	3,000	2,000	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	10-18	3,000	1,325	W	3	Ow	3	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	15-27	5,700	1,600	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	20-40	14,000	3,000	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	12-20	3,800	1,585	W	2	Buda	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	12-20	3,800	1,585	W	2	Widely	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Case	12-20	3,800	1,585	W	2	Ow	2	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
C.O.D.	16-30	4,245	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Coleman	16-30	4,245	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Common-Sense	20-40	6,000	2,200	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Crag	15-25	7,000	.....	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Creeping Grip	15-25	7,000	2,000	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dakota	15-27	5,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3
Dart Blue J	15-30	4,900	1,750	W	4	Ow	4	4 1/2 x 6	G or K	2-3	Karl	20-35	6,100	2,100	W	4	Waukesha	4	4		



# MOTOR WORLD GUIDE

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**They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.**



## Passenger Cars

Model	Motor	Ignition	WB	Tires	Rims	Pass.	Phon.	Seat	Starting Lighting	Motor	Ignition	WB	Tires	Rims	Pass.	Phon.	Seat				
ALLEN Series 41	4-31x5	Conn	A-Lite	112	32x3 1/2	SS	...	\$1195	...	FRANKLIN 9B	6-31x4	A-Kent	Dyneto	115	32x4 1/2	SS	\$2400	\$2460	\$2460	\$3350	
AMERICAN B	6-31x5	A-Kent	West	122	32x4	SS	...	\$1835	1765 \$1895	GRANT G	6-3	x4 Remy	Wagner	114	32x3 1/2	...	1120	1120	...	1645	
AMERICAN BEAUTY	6-31x5	G&D	G&D	121	32x4 1/2	SS	...	2000	...	BARROUN A-1	4-31x5 1/2	A-Kent	Remy	106	30x3 1/2	...	1095	995	...	...	
AMERICAN 400-A-E	6-31x4 1/2	Conn	Wells	120	32x4	SS	...	1675	1750 2550	HAYNES 46	6-31x5	Remy	L-N	127	34x4 1/2	SS	12485	3350	...	2485	
ANNIVERSARY	6-31x4 1/2	SS	Bijur	130	33x4 1/2	SS	...	14000	4000	4.	12-2 1/2	Deleo	L-N	127	34x4 1/2	SS	...	13250	3250	4000	...
APPERSON 8-50	8-31x5	Remy	Bijur	130	34x4 1/2	SS	...	2625	12575 2625 3700	HOLLIER 208	6-31x4 1/2	Remy	Splider	114	32x4	SS	...	1785	...	...	...
AUBURN 6-38-H-K	6-31x4 1/2	Remy	Remy	120	32x4	SS	...	11595	1595	HOLMES	6-31x4 1/2	Esman	Dyneto	126	34x4 1/2	SS	...	2900	3900	...	...
BELL BIDDLE	4-31x4 1/2	A-Kent	Dyneto	114	31x4	QD	...	1145	1145	HUDSON Super-6	6-31x5	Deleo	Deleo	125	35x4 1/2	SS	...	12075	1975	2775	...
BRISCOE B4-24	4-31x4 1/2	Conn	G & D	121	32x4	QD	...	3000	3100 12750 4400	HUPMOBILE R	4-31x4 1/2	A-Kent	Wells	112	32x4	...	1335	1335	...	2135	
BUICK H 6-44-47	6-31x4 1/2	Conn	A-Lite	104	30x3 1/2	C	...	885	885	JONES 28	6-31x4 1/2	Remy	Wells	126	34x4	SS	...	12550	2100	...	...
H 4-48-50	6-31x4 1/2	Deleo	Deleo	118	33x4	SS	...	1495	1495	JORDAN J-40	6-31x4 1/2	Deleo	Bijur	127	32x4 1/2	SS	...	12475	2475	3500	...
H 4-48-50	6-31x4 1/2	Deleo	Deleo	124	34x4 1/2	SS	...	1785	2585	KING G	8-3	x5 A-Kent	Bijur	120	34x4	SS	...	2550	2150	3100	...
CADILLAC 57	8-31x5 1/2	Deleo	Deleo	125	35x5 1/2	SS	...	3220	12220 3220 4090	KISSEL KAR Custom Built	6-31x5 1/2	Remy	Remy	124	32x4 1/2	SS	...	...	...	...	...
CASE U	6-31x4 1/2	Wells	Wells	125	35x4 1/2	SS	...	14100	...	6-42-H KLINE KAR	6-31x4	Conn	Wells	121	32x4	...	1895	1895	11895	2590	...
CHALMERS 6-30	6-31x4 1/2	Remy	A-Lite	117	32x4 1/2	SS	...	1565	1565	LEXINGTON R-19	6-31x4	Conn	Wells	122	34x4	SS	...	1785	1785	2850	...
CHANDLER CHEVROLET	6-31x5	Booth	Wells	123	34x4	SS	...	1795	...	LIBERTY 10-B	6-31x4 1/2	A-Kent	Wagner	116	32x4	SS	...	1570	1170	2640	...
490	4-31x4 1/2	Remy	A-Lite	102	30x3 1/2	C	...	715	715	LOCOMOBILE 38	6-41x5	Berling	Wells	136	35x5	QD	...	15700	5500	5500	...
FB	4-31x4 1/2	Remy	A-Lite	110	31x4	SS	...	1110	1115	48	6-41x5 1/2	Berling	Wells	142	35x5	QD	...	16700	6600	6600	...
D	8-31x4	Remy	A-Lite	120	34x4	SS	...	1885	...	MADISON	6-31x5	Remy	Remy	118	33x4	SS	...	1550	...	...	...
COLE 8-0	8-31x4 1/2	Deleo	Deleo	127	33x5	SS	...	2595	12595 2595 3995	MAIBOHM B	6-31x4 1/2	A-Kent	Wagner	116	32x3 1/2	SS	...	1290	...	1890	...
COLUMBIA D-CACS	6-31x4 1/2	A-Kent	W-Land	115	32x4	SS	...	1745	1600	34	6-31x5 1/2	Booth	Bijur	136	32x4 1/2	QD	...	13950	3900	3950	7750
COMET	31x5 1/2	De co	Dyneto	125	33x4	SS	...	1685	...	25	4-31x4 1/2	A-Kent	Simms	109	30x3 1/2	C	...	895	895	1585	...
CROW-ELKHART	4-31x5	Conn	Dyneto	115	32x3 1/2	SS	...	1695	1695 11155 1445	MCFARLAN	6-41x6	Booth	Wells	136	35x5	QD	...	4300	14500	4300	5600
CE-36	6-31x5	Conn	Dyneto	116	32x4	SS	...	1295	1295 11355	MERCER Series 4	4-31x4 1/2	Berling	Wells	132	32x4 1/2	SS	...	4350	14500	4500	...
CUNNINGHAM	8-31x5	Deleo	Wells	132	35x5	SS	...	14250	4750 4250	MITCHELL E-40	6-31x5	Remy	Remy	120	33x4	SS	...	1175	1175	2175	...
DANIELS B	8-31x5	Wells	Wells	127	34x4 1/2	QDR	...	3750	3750 3750 5500	E-42	6-31x5	Remy	Remy	127	34x4	SS	...	1675	...	...	...
DAVE 51-54	4-31x4 1/2	Deleo	Deleo	119	34x4	SS	...	11750	1695 2395	MOLENE-KNIGHT L	4-31x5	Conn	A-Lite	118	34x4	SS	...	12000	2000	2500	...
DISPATCH G	4-31x5	Booth	USL	120	34x4	SS	...	11250	11290	MOON	6-31x4 1/2	Dyneto	...	117	33x4	...	1475	11475	...	...	
DIXIE FLYER	4-31x5	Conn	Dyneto	112	32x3 1/2	SS	...	1095	1095	6	31x4 1/2	Deleo	Deleo	118	32x4	SS	...	1685	1685	2500	3250
DODGE BROTHERS	4-31x4 1/2	Own	N.E	114	32x3 1/2	SS	...	1085	1085	6-40-19	6-31x5	Deleo	Deleo	126	35x4 1/2	SS	...	12500	...	...	...
DORRIS 6-00	6-4	x5 Booth	W-Lth	132	35x5	SS	...	...	...	MOORE	4-31x4 1/2	Conn	A-Lite	106	30x3 1/2	...	...	895	...	...	...
DORT	4-31x5	Conn	Wells	105	30x3 1/2	QD	...	1625	925	MURRAY	8-31x5	Disie	Wells	128	34x4 1/2	...	2800	2800	2800	...	
ELCAR	4-31x5	A-Kent	Dyneto	116	32x3 1/2	SS	...	1175	1175	682	16-31x5	Deleo	Deleo	127	34x4	SS	...	1640	...	...	...
D.F.	6-31x4 1/2	A-Kent	Dyneto	116	32x4	SS	...	1375	11375	684	16-31x4 1/2	Deleo	Deleo	131	34x4	SS	...	11490	1490	11595	2250
ELGIN	6-31x4 1/2	Wagner	Wagner	118	32x4	SS	...	1895	1990	NATIONAL Six	6-31x4 1/2	Deleo	Wells	128	34x4 1/2	QDR	12450	12450	2450	3120	...
ESSEX	4-31x5	Deleo	Deleo	104	32x4	SS	...	1395	...	Twelve	12-31x4 1/2	Deleo	Bijur	128	34x4 1/2	QDR	13000	13000	3000	3720	
FORD PORT	4-31x4	Own	...	100	30x3 1/2	C	...	500	535	NELSON	4-31x4 1/2	Booth	U.S.L.	104	32x4	...	12000	11400	...	1800	...
										OAKLAND 34-B	6-31x4 1/2	Remy	Remy	112	32x4	SS	...	11075	1075	1650	...

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# MOTOR WORLD

for  
DEALERS, JOBBERS AND CAR OWNERS

PUBLISHED WEEKLY AT 25 WEST 57TH STREET  
NEW YORK, MAY 28, 1919

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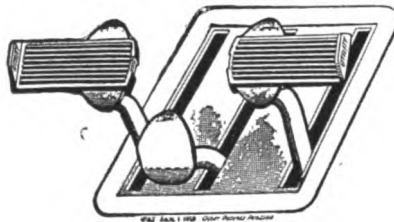




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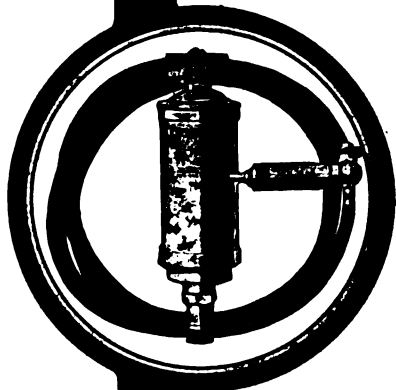
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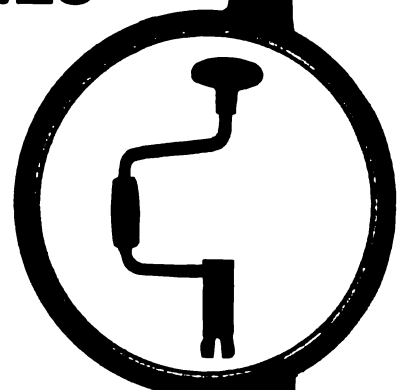
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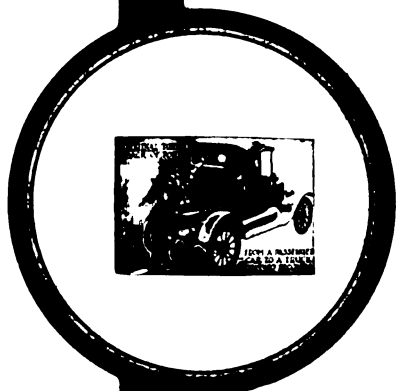
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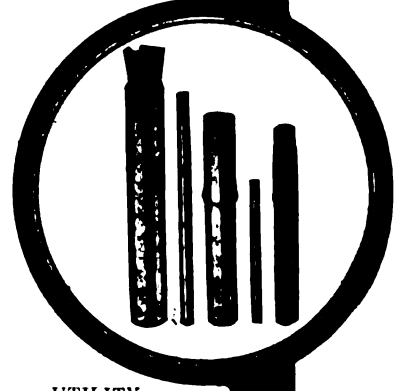
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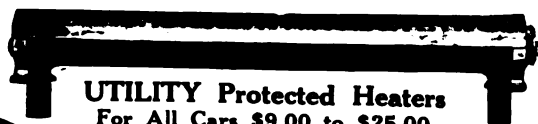
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**UTILITY Protected Heaters**  
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# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

Play for a Day.....	8
How Los Angeles Dealers Play.....	10
Tractor Sales Objections.....	12
Keep Your Window Working.....	14
The Chain Battery Station.....	16
Your Competitor Cuts Prices.....	17
"Humane Society" for Tractors.....	18
All Set, Now Going Ahead.....	19
Next Week—Ford Repairing.....	20
Tire Repairmen Use Benzol.....	22
Scientific Garage Construction.....	24
Editorial Observation.....	26
Letters From Readers.....	27
The Law.....	29
The Retail News.....	30
Repairshop Short-Cuts.....	32
Automotive Equipment.....	34
Specifications.....	45
Coming Events.....	44
Regular News Department.....	35

Advertisers Index on Pages 162-163

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## The Profits You Are Losing On Distilled Water

WHY pay good money to some one else for distilled water. Produce all you want *yourself*, at only 1½c a gallon with the

## BARNSTEAD WATER STILL

SO pure is the yield of the Barnstead Water Still that analysis shows but 1 part mineral matter to a million. What better could be desired? That's just the kind of distilled water the Barnstead Still will produce for *you*. Why not install one? The money you pay out now to someone else's benefit will quickly pay for the Still and, after that, every cent saved is *clear gain*.

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5 LANESVILLE TERRACE, FOREST HILLS,  
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Barnstead Stills are made in sizes to produce one-half gallon per hour up of distilled water. A still containing one-half gallon capacity costs \$18.70 and will last indefinitely.



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**T**HE call of the open road has added to the unprecedented demand for the Velie Six. Orders total more than double the number of Velie cars ever built before. All the facilities of the Mile of Velie Factory are required.

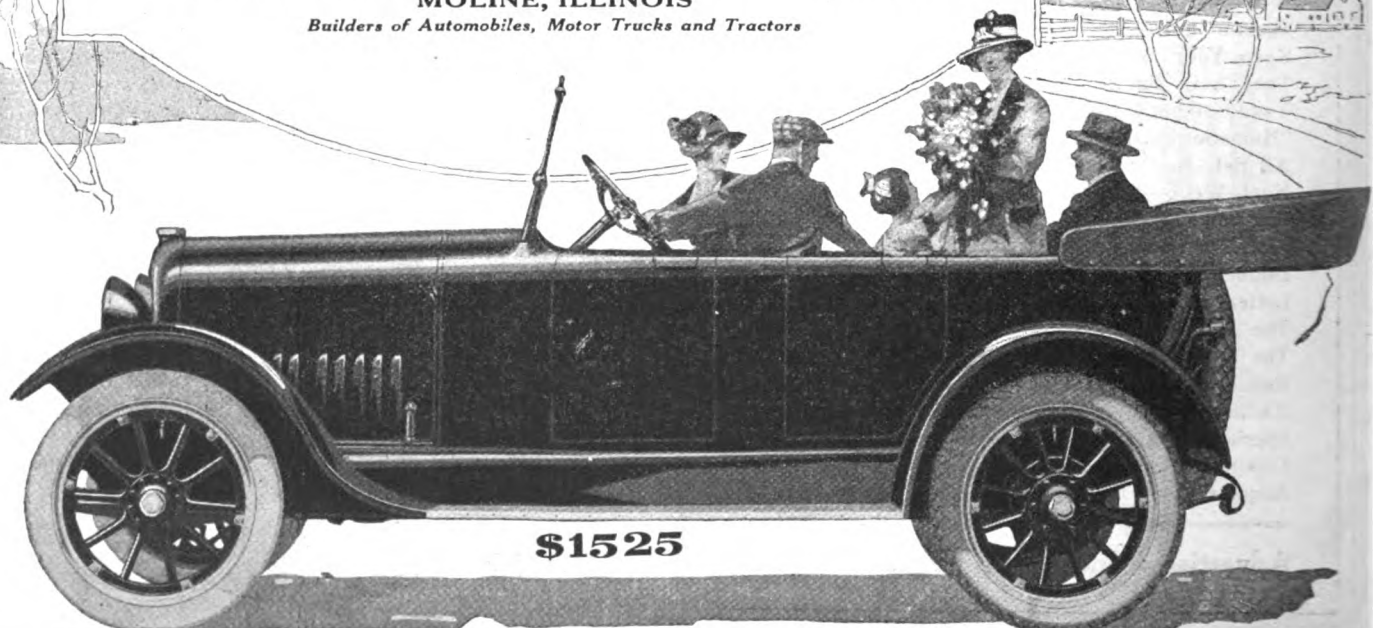
Country-wide recognition of the Velie values is responsible for this enormous increase. There is universal appreciation of the quality in the Velie car; of its beauty, of its high-grade features at a low price, and of the sincerity and honesty of purpose built into every model.

The Velie Six has the power, speed, comfort and dependability—every quality you want in the automobile you sell. Dealer and owner alike agree that the Velie Six offers greatest values for the price.

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**VELIE MOTORS CORPORATION, 115 VELIE PLACE  
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*Builders of Automobiles, Motor Trucks and Tractors*



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# ACCESSORY DEALERS !

Manufacturers and Jobbers of automotive equipment will hold their big convention at Hot Springs, Va., during the coming week. It will be the most important gathering of its kind in the history of the industry.

What is done by the convention will have a direct relation to your business during this season and the seasons to come. It is worth while that you be fully acquainted with what transpires at Hot Springs next week.

That you may have the advantage of the full report MOTOR WORLD will publish, on June 11th, the

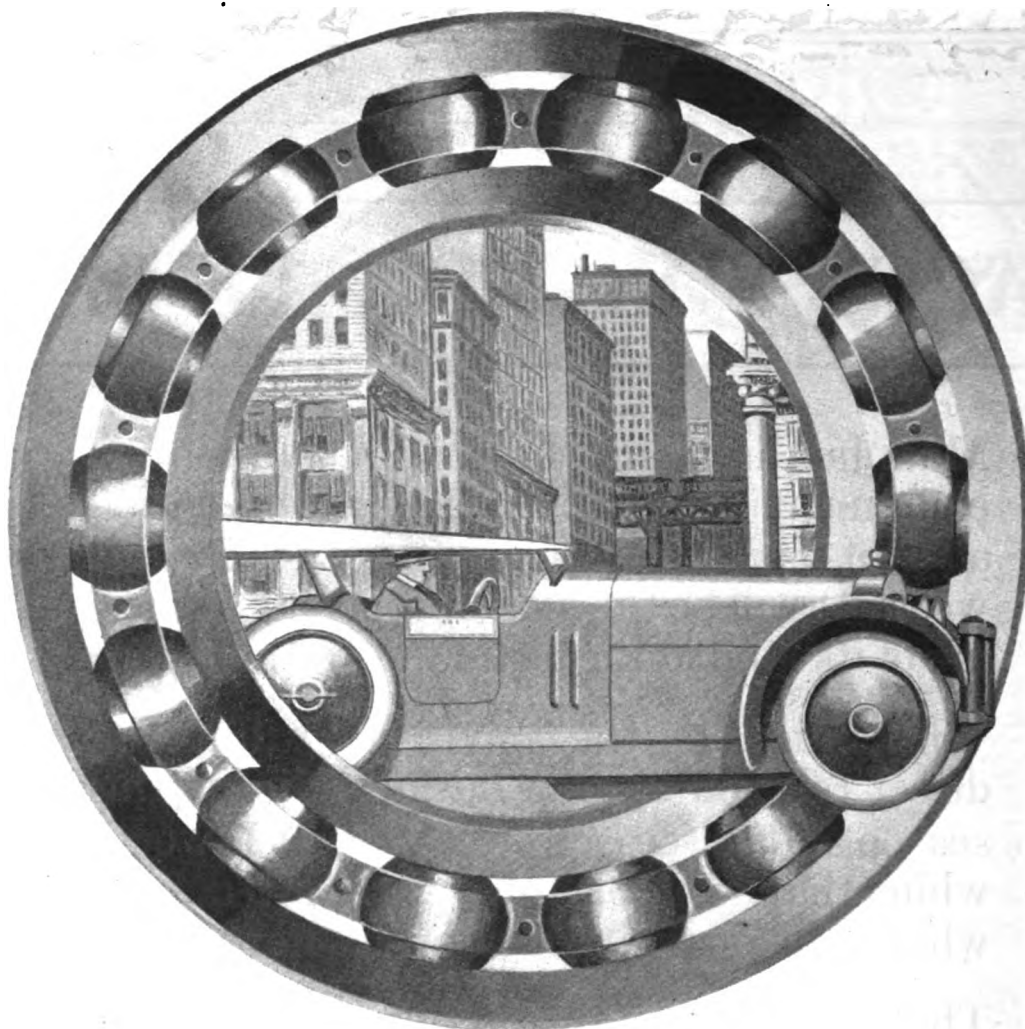
## JOBBERS' CONVENTION REPORT NUMBER

Don't miss this forthcoming important issue. If you will want extra copies please send your order to us promptly.

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# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, May 28, 1919

No. 9

## Six Important Articles

In Motor World This Week

*And Why They Are Important to You*

- |  | Look on<br>Page |  | Look on<br>Page |
|--|-----------------|--|-----------------|
| <b>1—Why You Should Play . . .</b>   | <b>8</b>        | <b>4—Tire Repairmen, Use Benzol -</b>  | <b>22</b>       |
| <p>You know the old saying about all work and no play? Well, it is just as true today as it was 100 years ago. Play puts vim and vigor into a jaded carcass.</p> |                 | <p>Poor gasoline is causing a lot of grief among tire repairmen. Motor World presents the opinions of a dozen big tire companies.</p>                              |                 |
| <b>2—What Play Did for Los Angeles</b>   | <b>10</b>       | <b>5—Tractor Sales Objections -</b>  | <b>12</b>       |
| <p>It eliminated all petty jealousies and tied the city's automotive interests together so tightly they all pull like one.</p>                                   |                 | <p>Is there any tractor salesman who has not had from one to a dozen seemingly unanswerable objections handed to him? Here are the answers, all cut and dried.</p> |                 |
| <b>3—Keep Your Window Working</b>  | <b>14</b>       | <b>6—Your Competitor Cuts Prices -</b>   | <b>17</b>       |
| <p>The success of a business can very nearly be judged by the regularity with which the window displays are changed. Are you successful?</p>                     |                 | <p>Ever have a customer put this argument up to you? Who hasn't? Well, here are some answers that will clear the atmosphere for you.</p>                           |                 |



# Play for a Day

## *If You Never Had an Association Outing, You Missed Something—Let's All Go, This Time*

**L**ET'S make 'er spin!

Let's forget all about the man who is kicking about the rubber on the used car he bought from you. *Let's play.*

Let's get out a card to every dealer in town TO-DAY, something like this:

Fellow slaves: The day of emancipation has come. Come one, come all to the First (or second, or third, or fourth as the case may be) Annual Outing of the Callawassa Automobile Dealers' Association. Play a day. Hitch your bus to a star—which the

association furnishes, and jog along to Smith's farm on the old Post Road. Wear your old clothes; bring your golf sticks, your running shoes and your bathing suit. There's a prize for you in any one of FOURTEEN EVENTS. You're invited. Let's go.

That's easy. Now get a couple of the fellows together and arrange a program. What to put on it? That's easy, too. Here's what Harry Gardiner had up in Syracuse last year, and he says "a pleasant time was had by all":

### *What Syracuse Did*

1. **Snake Dance**—A sure-fire method of corralling all "outers" to the eats. Headed by an officer, the band starts on a tour around premises, everybody lock-stepping in single file behind in time to music. Curves, letter S designs, etc., made on way to tables. Starts dinner with pep.

2. **Obstacle Race**—Driving cars around barrels, boxes, etc., without touching. Timed event. Staying in second gear and skidding rear end around obstacles by braking provides a good spectacle and makes winners.

3. **Auto Potato Race**—Driver of car and one passenger. Ten baskets or boxes set in a big circle, passenger equipped with 10 potatoes. Potatoes to be dropped one to a basket as car circles the field. Time event.

4. **Baby Carriage Race**—A better laugh producer than the old wheelbarrow event. Procure two or more baby carriages from second-hand stores. Start from line together, down the field and around post and back to starting point. "Baby" and "nurse" to each carriage. Can be made into several events with winners in an elimination race.

5. **Nail Driving Contest**—The biggest success on the list. Entrant starts from line with car. Drives 150 ft., stops car and motor, leaves car and runs 50 ft. at right angle to car. Drives five nails in railroad tie or log. Returns to car, starts engine and reverses to starting point. Time event. Provide can of nails and hammer at log. All nails must be driven straight, crooked or bent nails disqualified. Spectators usually give advice in bunches while contestant is driving nails. A riot.

6. **Whistling Contest**—Contestant eats

three dry crackers, no washing down, whistles tune for 3 minutes. Appoint judges to determine winner.

7. **Watermelon Relays**—Five or more men to a team. One from each team placed together at various distances from starting point, usually in a large circle to make start and finish line the same. Captains of teams are last in circle. Watermelon relayed around. Winners divide melons to the team.

8. **Monkey Race**—200 ft. away from finish line, line up men, standing. With pistol, contestants drop on hands, run on all fours, to finish.

9. **Crab Race**—Same as No. 8, only backwards.

10. **100 Yards, Backwards**—Race to be run by contestants in upright position, with backs to finish line at all times.

11. **Bull Throwing Contest**—Draw outline of bull 8 in. long, 5 in. high, on 1½-in. board. Cut out with scroll saw, take this model to any foundry and have casting made of iron. A few daubs of paint and it is ready; 6-ft. circle for thrower to stand in, longest throw wins. A whale of a story for the local papers.

12. **Triple Contest**—Have 3 tables, with attendant at each, set 75 ft. apart in a straight line. No. 1 table has corn-cob pipes, smoking tobacco and matches. No. 2 table has blackberry pie, cut into sections. No. 3 table, needles, with medium-size eye and spool of thread. Contestant starts at No. 1 table, assembles pipe, fills with tobacco, lights; then runs to second table—is handed cut of pie, which he eats—runs to third table, threads needle and returns to table No. 1. The pipe must be smoked during the entire contest, and not allowed to go out. Timed event.

13. **Human Wheelbarrow**—Two men to a team, "wheelbarrow" walks on hands pushed by partner holding his legs.

14. **Leap Frog**—Two men to a team, at signal leap frogging, alternately over each other to finish line.

15. **Automobile Placing Contest**—Secret spot is designated. Auto nearest this spot wins.

16. **Auto License Plate Poker**—Owner of car having best poker hand on license plate wins.

17. **Hand-Shaking Contest**—An unknown member is designated as the official hand-shaker. Every tenth man he shakes hands with wins a prize.

18. **Guessing Contest**—(To be put on after first course has been served at meal. Prize—small pig, dog or monkey). Have pint jar of glass filled with beans—distribute cards of each diner who writes thereon—their own name, what the name of the animal will be christened if they win, and the number of beans they think is in the jar. Nearest correct wins. Give sex of animal!

19. **Secret Time Run**—Hand driver of each car at assembling point a card like this:

Syracuse Automobile Dealers' Assn.,  
Annual Outing

I declare on my honor that my running time from the Court House to Constancia was:

.... Hours, .... Minutes, .... Seconds.  
Signed.....  
of.....

Name of firm connected with.

Fill out and hand to.....at Hotel.

Secretary sets time prior to outing, when going to destination to complete plans for that day. Driver nearest to secret time wins.

The following do not need any explanation:

- 20. Baseball.
- 21. Fat-men's race.
- 22. Standing broad jump.
- 23. Hop, skip and jump.
- 24. 100-yard dash.
- 25. 3-legged race.
- 26. Shoe off and on contest.
- 27. Tug of war.

### *What Newark Did*

Our association, which, so far as we know, is the oldest continually active automobile trade association in the country, has found it a very good thing to hold outings and other forms of "stunts"

(Continued on page 41)



# *Hail! Hail! The Gang's All Here!*







*Here's a section of the party of Los Angeles dealers who went to*

LOS ANGELES, May 24—When it was proposed to hold the annual super jinks of the Los Angeles Motor Car Dealers' Association this year the desire was expressed to make the affair something different, to get away from anything that in the least might suggest motor cars. Consequently it was decided to hold the annual meeting in connection with the jinks, to go to Catalina Island for the purpose and to invite representatives of all the allied trades to participate.

Arrangements were placed in the hands of a committee composed of Robert Breyer, Harold Tuttle and O. R. Fuller. It was stipulated that aside from the association's annual business meeting there was to be nothing connected with the outing unless it had to do with recreation and diversion.

This was the first time that representatives of the allied trades had been asked to participate in any event of the dealers' association. The invitation was accepted so widely that 225 responded to the call and a special train was necessary to take the crowd to the harbor. The island management co-operated to the extent that an excursion steamer was

placed at the disposal of the party and St. Catherine Hotel, at Avalon, was opened for the occasion.

Two days were devoted to the outing and the affair went through with zip and bang from the moment of assembly to take the train. Everybody wore an identification tag and there was no hanging back for introductions. Business talk of any kind was absolutely tabooed. There was no set program and the throng found amusement according to individual taste in swimming, fishing, baseball, mountain climbing and taking a ride on the glass bottom boats to the wonderful marine gardens. African golf proved very fascinating and the sky was the limit when it came to trying one's luck with the leaping dominoes.

In the evening a banquet was served. The directors of the association were seated at one table and the membership was grouped about at smaller tables close by. There were few formalities and the others present were seated according to their own preference. A jazz band enlivened the time and professional entertainers drove away all that remained of dull care. They did not have much of a job, at that.

President P. H. Greer opened the formalities by suggesting a toast to President Wilson as the most illustrious American. President Greer expressed the gratification of the association at having so many present, indicating that there are common interests between the various lines of associated trades. He

## Los Angeles Dealers Give Up Two More Than 225 Attend Annual Super-High Jinks at Catalina Is Train, Special Boat and



*And here's the other section, which will give some idea of the big*





*the outing of the Los Angeles Dealers' Association at Catalina Island*

## Days to Play and Are Better for It

*land and for Two Whole Days Business Is Forgotten—Special  
Special Hotel All Help*

did not present any formal report but in commenting upon the past year said it was the most tempestuous the business ever had known.

"From a fair business last May, we saw things going down hill until in November there was practically no business for any of us and we wondered what the end would be," he said. "Following the signing of the armistice there came a change and right at this very time all of us would be enjoying the greatest business ever known if we could get the cars and supplies to meet the demand."

Major H. D. Ryus, a former member of the association, was present in uniform and related a number of anecdotes from the front. He refused to discuss the morbid aspects of war. Ralph Ham-

lin, the treasurer, presented his report which showed the association has investments in bonds and other assets amounting to \$12,000 and a bank balance of \$2,849. During the year there was received from membership fees and dues \$2,080. The association retains an attorney, who also serves as assistant secretary, and he was paid \$1,800 for his services. Donations were made to the Red Cross and other drives.

In appreciation of his services as manager of the Santa Monica road race, which was conducted by the association, A. M. Young was presented with an engraved gold cigarette case. A silent toast was drunk to Major Clarence Smith, formerly of the firm of Smith Bros., members of the association, who

was killed while leading his forces in the Argonne forest battle. Maj. Smith was a former president of the organization and one of its most active spirits.

According to custom, the election of directors was held at this time. It resulted in the following board being named: F. S. Albertson, H. L. Arnold, E. C. Anthony, H. J. Coger, R. C. Hamlin, P. H. Greer and L. V. Starr. The new directors retired and upon return presented the names of the following as officers for the succeeding year: R. C. Hamlin, president; F. S. Albertson, vice-president; H. J. Coger, secretary; L. V. Starr, treasurer. The membership voted approval of their choices.

When the buying public was depressed and the national business situation looked discouraging, about the first of this year, the Los Angeles Motor Car Dealers' Association stepped to the front and brought about a revival in business in this city that was nothing less than wonderful. It was proposed that things be started right by an hilarious carnival and outdoor rejoicing New Year's Eve. Other merchants believed it would be a nice thing, but as to contributing toward

*(Continued on page 35)*



*crowd that turned out. The affair is an annual one and lasted two days*



# Tractor Sales Objections—

## And How to Meet Them

### THE FARMER'S OBJECTIONS.

- 1—My Farm isn't big enough. How can I use a tractor?
- 2—I will have to keep my horses anyway, so what use will a tractor be to me?
- 3—Will it plow cheaper than horses?
- 4—Can I learn to run it?
- 5—I can't afford to buy a tractor now.
- 6—I can't pay cash, but must have time. How about it?
- 7—Suppose it breaks down. What am I going to do?
- 8—Are you going to charge me for the service you give me?
- 9—What am I going to do with my old farm implements?

**F**ARMER psychology is pretty much the same everywhere. This is because, fundamentally, the problems of the farm are much the same wherever the farm may be located.

Labor is the greatest factor in farming, and, after all is said and done, results on the farm must be measured in terms of labor. Thus *whatever operates to affect labor one way or another has an interest for the farmer.* This interest, too, is universal. This accounts for the mental attitude of the farmer toward the tractor at the present time.

#### That Horse Question

In the past all the farmer has had in the way of a power plant to assist him in putting in and harvesting his crops has been the horse. This he still has and he is, for the most part, dependent upon this animal.

The farms of the country which actually are motorized completely almost may be counted on the fingers of the two hands. Almost uni-

versally the farmer figures power in terms of horses, and in considering the tractor he is inclined to figure it also in the same terms. But with this difference: The farmer is looking to the tractor to displace his horses, and he wants to know how this is to be accomplished and to what an extent he also must enter himself as a factor in the process.

#### He Asks Questions

It follows naturally then that when the possibility of buying a tractor is put up to the farmer he asks certain pertinent questions. The problem being a common one to all farmers, they are pretty apt to ask about the same questions wherever they may be. Among the commonest of the questions asked are those given herewith.

Recently Motor World asked a number of dealers who have been successful in selling tractors what answers they make to these questions and objections. Among the tractor salesmen who make answer is F. H. Lang, who has charge of tractor sales for the Dunlap Motor Co., Ames, Iowa.

It happens that Lang is farm bred

and farm trained, not only as a boy but as a man. For years he was custodian of the Story County farms near Ames, and besides being a practical farmer is also a thorough mechanic. Also he has demonstrated his ability as a tractor salesman for he has sold and is selling tractors. Lang answers each question in detail and tells how he meets each query and objection.

#### 1—My Farm Isn't Big Enough. How Can I Use a Tractor on It?

Can't you interest your neighbor? Haven't you some relative near you who will go in with you on the purchase of a tractor? If your farm isn't large enough to warrant your buying a tractor by yourself, then buy one in co-operation with some one else.

Lang believes there will be a lot of co-operative buying of this kind and says he has a number of such deals under way now, some of which he will surely close. He admits farmers in the past have not taken very kindly to co-operative buying, but says they are getting over their objections to it and such buying is to be a factor to be reckoned with in the future development of the tractor trade.

#### 2—I Will Have to Keep My Horses Anyway, So What Use Will a Tractor Be to Me?

Keep your horses, by all means, but use some sense of discrimination in the horses you keep. Keep brood mares and work them during the period of gestation, for it is good to work them moderately at that time. Raise pedigreed stock of the big type of horse, for then you will have the right kind of stock to sell when the demand for it comes. The demand is coming, never fear about that.

For this reason the farmer who stops raising horses is foolish. Europe needs millions of horses and must look to America for them. The market now is no criterion of what it will be, but it is as good, perhaps, as it ought to be considering the grade of horses now available. Go into horse raising just as you would into cattle raising—be a real hus-



bandman and raise the kind of horses that will bring the best prices. Your horses then will be a source of profit to you and your tractor will become a necessity.

### 3—Will It Plow Cheaper Than Horses?

Most assuredly, yes. Remember your tractor costs you nothing at all while you are not using it. You have to charge cost against it only during the time it is doing the most useful work for you. In the long run the cost of tractor farming is very much less per acre than the cost of horse farming, because you have to feed your horses at constant cost throughout the year whether they are working for you or not.

### 4—Can I Learn to Run It?

You buy instruction in how to run your tractor when you buy your tractor. You never will be left with it until you do know how to run it.

### 5—I Can't Afford to Buy a Tractor Now

You know what working your horses to the point you have to work them in order to operate your farm does to them, don't you?

It will be wiser to relieve your horses of the hardest of your work and thus keep them in good condition so you can sell them for a price when the time comes. There are no surplus horses in America, and a big demand is certain. Buy a tractor and get your horses into condition to command the top price. There's money in this for you, because the difference in the value of your horses when they are not worked to death and their value when they are done up doing your hard work will nearly pay the cost of a tractor now. Of course, you can afford it.

### 6—I Can't Pay Cash, But Must Have Time. How About It?

Every banker in our territory is sold on the power farming proposition and will let you have all the money you need to pay for a tractor. Also we take care of our own customers when it is necessary to do so.

### 7—Suppose It Breaks Down, What Am I to Do?

Rely upon us for that. Our service, which we are prepared to give, and which we will give, will take care of any trouble you will have. Our equipment is such in machines, men and parts that no customer of ours will be permitted to lose the use of his tractor for a single day—that's up to us.

### 8—Are You Going to Charge Me for the Service You Give?

That depends. The amount of service we will give you free is a matter of judgment and must depend upon circum-

stances. If the trouble is our fault, or that of the tractor, then it will cost you nothing. If it is due to your fault then you will have to pay for it just as you would for any other work done for you.

### 9—What Am I Going to Do with My Old Farm Implements?

He answers them by telling them to keep their old tools stored and in good condition until the period of farm sales comes around, and then sell them off at auction. There will be a demand for second-hand farm equipment just as long as there are farms worked by horses and not every farmer is going to buy a tractor at once.

Lastly, Lang puts stress upon the problem of farm labor and how the tractor helps to solve it. Farmers in Iowa are now offering \$55 a month, including board and washing, for good farm hands, and they can't get them at that. The tractor is a reliable and available substitute and on this score alone is not only an economy but a necessity.

Another factor of opposition, or objection, Lang has had to meet frequently, is the farmer's wife. She often can't see the necessity for a tractor. She is inclined to say that nothing ever is done to lighten her labor and she doesn't see why her husband should invest in a tractor, in addition to all the labor-saving equipment he already has, just to save him more work.

Lang tells her she already has an automobile, but always is kicking because her husband can't find the time to go riding with her. The tractor, by lightening the labor of her husband and enabling him to get his work out of the way quicker, is a time as well as a labor-saver and thus will enable him to get more time to devote to her and to his family.

These are arguments, in brief, of a successful tractor salesman who meets the farmer every day of his life. The resourceful dealer can emphasize or elaborate any or all of them to meet particular cases. They are presented here because they constitute a complete and logical course of argument to use in selling tractors.

## One-Act Moneylogue

### I—Spare Time

### II—An Idea

### III—A New Business

**D**URING the winter of 1917-1918 the exceedingly heavy snow which fell in and around the central part of Pennsylvania, in fact the whole country, practically put the garagemen out of business for the time being. It was of course very easy for Miller Brothers of Lewisburg, Pa., to live through the three or four months of dull business, but the mechanics, to hold their jobs, had at least to appear busy, and in cleaning up the garage and attempting to put the place in order they came across a large amount of electric-light bulbs all mixed up, some not even in paste-board boxes.

They got an ordinary packing box and went out in the shop and built a very crude sort of cabinet with about a dozen different slides. In each slide they bored about 100 holes. They then fashioned handles on the slides and sorted the bulbs according to size and voltage. They also placed three small drawers in the cabinet to hold connections, etc.

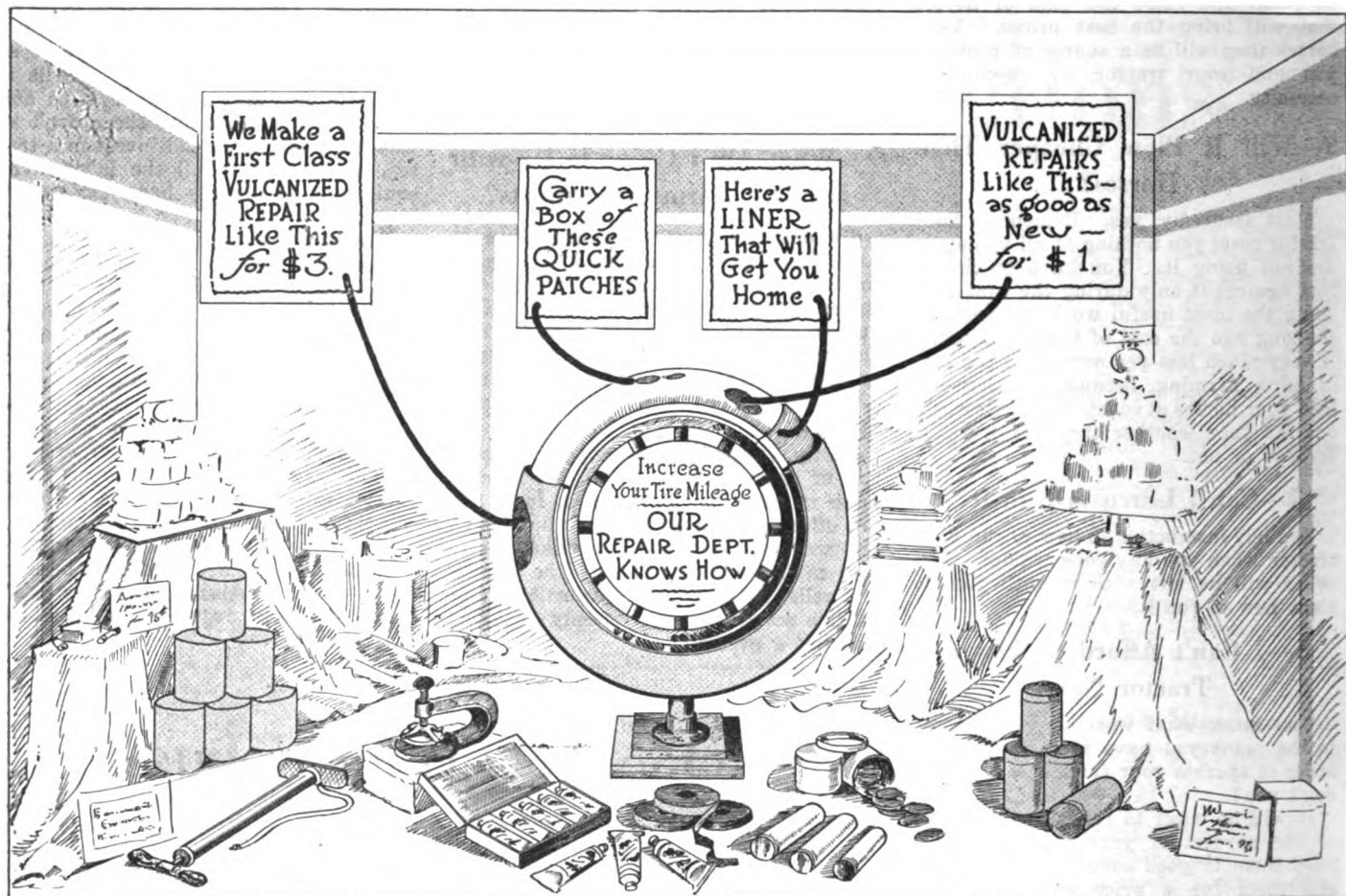
Different salesmen from accessory houses and jobbers calling on them from time to time noticed the cabinet in the garage office, and most of them said they felt there would be a demand for a product of this sort among the garagemen of the country.

Miller Brothers proceeded to have it patented, or at least applied for a patent, and got a small box-manufacturing plant in a near-by town to build them in small quantities. In the meantime they wrote to the jobbers who were members of the Automotive Equipment Association, asking them if they would care to handle the cabinet. About a dozen of them took them seriously and a few of them placed an illustration and description of the cabinet in their catalogs. In this way they have managed to sell about 2000 of these up to the present time and have made arrangements with a large box-manufacturing company in Hagerstown to make these and deliver them in thousand quantities.

This past February at the Harrisburg show a Motor World man ran across one of the cabinets, and Motor World showed a picture in one of the February issues. The mention of this cabinet in that issue of Motor World brought in about 50 inquiries, some of them from the Hawaiian Islands, in fact, from all over the country, some of them being orders with checks and money orders enclosed. They also have 800 orders on file that they have been unable to fill on account of shortage of manufacturing facilities.

*Moral—Use your spare time. Get an idea. Put it over.*





*Put your tire repair department on the map with a display like this*

# Keep Your Window Working

## *An Attractive Display Brings Business—How to Trim a Window and Use Your Own Ideas*

**G**OOD window displays as surely denote a wideawake dealer as good taste and care in dress denote a successful business man. An attractive accessory and supplies window not only draws customers to buy what is in your store—it implies in the most forceful way that ALL the work behind that window, whatever it is, service, garage, repairs and so forth, is on the same level of excellence.

You may run an automotive business on the most up-to-date lines behind an untidy front, but your clientele would be limited to those car and truck owners who had accidentally discovered your abilities or had been recommended by satisfied customers. With an attractive window, kept interesting by frequent changes, you not only have the accidental and recommended customers—you draw new ones every day who, consciously or unconsciously, accept your

displays as a criterion of the character of your business.

It will be obvious, therefore, how tremendously important your windows are, as a factor in your success, especially if there are competitors in the same locality. If you are satisfied in your own mind that your store or garage and shops are equipped to provide the best possible service to car owners, then it is nothing short of a business crime to neglect to advertise the fact by a clean front and an attractive window that shows taste and a well developed better-business sense.

Motor World has published from time to time photographs of window trims that have meant money to thousands of readers who have used them as models. This article is intended to give more general advice that will enable a dealer or garageman with original ideas of window dressing, to put those ideas into

practice with the greatest advantage. The summer season is just opening up. It is a good time to decide that you will make your windows PAY! Get busy now, while the new car owners are looking around!

The things to bear in mind when acting as your own window dresser are:

1. Keep everything **CLEAN**.
2. Don't overcrowd.
3. Make frequent changes.
4. Arrange in logical groups.

Dealing with these in turn, which represents their order of importance:

### *1. Cleanliness*

Even a poorly arranged window is attractive if it is **CLEAN**. A clean man is usually clean all the way through, person, habits and business practice. It's human nature to assume one from



the other. Let your window be the outer sign of your mind in this particular. Keep the glass clear and the articles free from any trace of dust. This is far and away the most important rule in window dressing, artistic or otherwise!

## 2. Overcrowding a Serious Fault

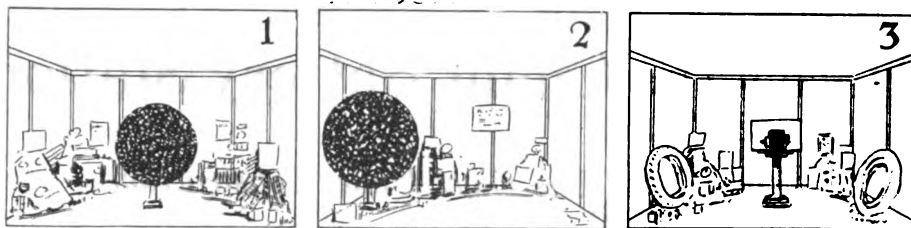
It is not easy to refrain from putting everything you have in a window, but the sooner this restraint is put into practice the better will be the window from the point of view of appearance, and, what is more important, the better it will draw, the more value it will have as a sales puller. It is infinitely better to rely on a 100 per cent useful display of a dozen articles than a 5 per cent useful display of a hundred articles. It is possible by skillful arrangement in sections to crowd a great number of articles in a window, and occasionally this is not a bad plan. But as a general rule this sort of window would suffer from these two disadvantages: First, it would be difficult for the prospective buyer to concentrate on or even discover the particular article he is in need of, and second, the window would fail to provide the desirable feature of variety, for no matter how often the articles were changed the general appearance would be the same. Which brings us to the third rule.

## 3. Make Frequent Changes

However good a window may be, it will become stale to people who pass it frequently. To casual passers by it will remain attractive, but you are aiming at the man who lives in your town. He must be kept interested until it becomes a habit to look over your display. If you accomplish this he will be an unusual man who doesn't soon see things he needs. And if he is attracted he will go in and buy. Profitable business relations are often begun just that way from a simple purchase. Frequent changes that are REAL changes are the best means of promoting interest and the surest way of demonstrating to the community that you are alive and on the job. Exercise your own ingenuity! Make 'em sit up and take notice!

## 4. Logical Arrangement

Logical arrangement of a given set of articles in a window is merely carrying further an application of common sense which every dealer uses when he puts winter accessories in his window during the winter months and summer equipment when the weather is warm. The arrangement should be such that the onlooker will be led in stages from one article to another without confusion. For example all the equipment connected with tires should be in a group as far as possible. Blow out patches, liners, filler gum, cement, tire tools, etc., should be together with a breathing space between that group and the electrical accessories. A man in need of one thing is then much more likely to see other things that would be useful to him in the same group. This connection of related articles is of great



1. An object in the center of a window gets the best display.
2. A large article is often prominent enough at the side. This makes possible an interesting arrangement that breaks away from the ordinary symmetrical layout.
3. A small important article should be raised to bring it nearer the eye level, and nothing but a plain background should be behind it

importance. If you can lead a man's attention from one object which has interested him slightly to another which might interest him strongly, that is, enough to create the desire to buy, the relation of those two objects is good, answers the primary requirements of a good window trim.

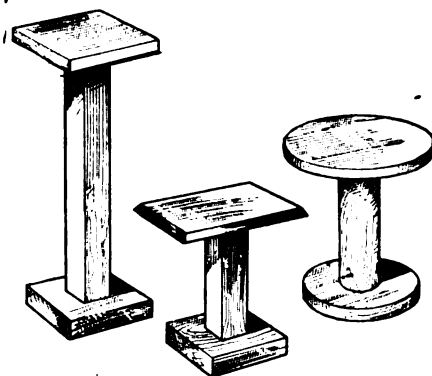
## How the Eye Travels

The direction in which a man's attention will travel when confronted by a number of objects or the separate points of interest in a picture, which is the same thing, is a fundamental part of an artist's training. But most people have a fair knowledge of this process by instinct and experience. For instance, it is well known that the eye tends to focus on the center of what is before it, rather than on the edges; that it would be attracted by a light or brilliantly colored object before darker or duller objects; that it is attracted by large objects before small ones; that an object above the center is more prominent than one below the center, and so on.

More people possess this knowledge than use it. It counts strongly in intelligent window dressing.

## Use a Quiet Background

The general appearance of things in this world is drab. Anything which is light or brilliant in color naturally stands out against this everyday background. It is a matter of contrast. A red automobile is conspicuous not only because most automobiles are not red, but also because red is a greater contrast with the color of roads, houses and the aspect of the visible world generally.



A few display stands of various heights help in window dressing

For the same reason the background of a window should be a dull unobtrusive color, such as gray or brown, if you want all the articles to stand out. Use curtains, wood or compo board. The last named can be made to look well and is a satisfactory, easily worked material. It is a good plan to divide it up into a few panels by means of vertical strips of paper or card  $\frac{3}{4}$  in. wide, a few feet apart, either lighter or darker than the shade of the background. This lends height. Having built your background remember that it is an essential part of a window display and should not be entirely hidden behind a multitude of objects. One of the commonest faults is the use of a background as a billboard for all manner of highly colored posters and ads. Incidentally it may be stated that most of the posters and display cards issued by manufacturers are good, and answer the purpose for which they were designed—if shown right—but no pictures with reading matter on them, however excellent, will stand jumbling in a mass.

Then buy or make a few simple wood pedestals of various heights. This gives an opportunity of raising small objects which you want to show prominently, nearer to the level of the eye. Large objects take care of themselves. Small articles should be raised and have plenty of space around them or a brilliant piece of card behind them to make them stand out.

Complete your window trimming equipment by procuring a quantity of plain cards of various sizes and tints, and either become your own sign writer or enlist the services of another. It isn't difficult to letter signs that will be read by everybody who inspects your window.

## Here's an Example

Now that everything is ready, suppose we design a window. We will assume that you have a tire repair department that you know is as good as the best, with the latest vulcanizing and other equipment and a first class tire man. And you decide to make a drive that will give this department a reputation. Begin by clearing out your window, leaving only a few good accessories and supplies around the edges. Devote the center space to a display that will show the quality of your repair work. Mount a wheel on a tire stand or other

(Continued on page 41)



# Here's the Chain Battery Station

*Tobey Now Has Eight Under Construction  
in Los Angeles—Owner Can't Miss 'em*

**T**HE origin of gasoline distributing stations is credited to Los Angeles and now has come an innovation—the establishment in various localities of battery service stations. A. J. Tobey of the Western Auto Electric Co., Willard representative in Los Angeles, is the originator of the plan.

Eight battery service stations are now under construction. Two are complete. Locations in the residential districts of the city have been selected in each instance. The stations are neat structures finished in white with gray trimming and with the Willard trademark worked into the design of the building itself. Tobey is a pioneer in the automobile electrical business, having entered it in the year 1912.

## Ensuring Battery Care

"Such strides have been made by the builders of batteries in the lines of construction and materials used that the only remaining problem was to see that the battery received proper treatment while in use," says Tobey. "Willard service is now provided to 15,000 cars in Los Angeles and the number increases weekly. We were in such a position that service facilities had to be enlarged so we decided that instead of a huge central plant it would be more convenient to users if we established numerous small stations throughout the city. The more convenient we can make our service, the

surer are our patrons to get complete satisfaction from their batteries.

"Each one of the small stations will be a completely equipped unit. Each will be prepared to handle battery repair work and recharging as well as give the regular testing and filling service and they will carry a complete stock of rental batteries.

## Skilled Men in Charge

"They will be in charge of skilled battery men, practically all of whom are now members of our main plant organization. Thirty-four men went from our plant into the service. These men are beginning to return and we find that the small stations will provide us a way to care for them without displacing the competent men we hired during the war."

Each service station will accommodate six cars under roof at one time. Women drivers will find them very convenient as they soon will learn the location and know where to go when battery troubles occur. A telephone call will bring a repairman at any time. It is not the intention to concentrate on Willard supplies exclusively. One of the plans includes a campaign of education laid out expressly for battery users who say of themselves that they are not mechanically inclined. The chief desire in the Tobey-Willard system is to have users take care of batteries but if they won't then provide experts who can.



*This is A. J. Tobey*

## Sold a Moving Billboard; Not a Motor Truck

He has made some excellent sales, but he has made them as advertising, not as transportation. When he went to one of the smartest clothing and furnishing goods firms in St. Louis recently, the conversation was something like this:

"Mr. Black, are you interested in delivery trucks?"

"No, sir. The Merchants' Express Company does our delivery work and does it very well indeed, much below any cost we could figure on doing it ourselves."

"I thought so, Mr. Black, but what does your space on one billboard cost you?"

"Now I have a plan to sell you a much more refined billboard, that instead of being stationary in some place you do not exactly like, will be moving about town in exactly the places you want it. Also it will make a lot of your customers proud instead of ashamed of trading with you."

"Did you ever stop to think how much the woman is interested in the vehicles that stops at her neighbor's door? A dingy Merchants' wagon goes there and she tosses her head and goes on about her business. Now a smart, well made and well decorated delivery wagon stops there and she goes to the window to look at it. She sees that it is your wagon, one in every way creditable to your business. She says 'So Smith buys his shirts at Blacks'. I must tell Tom about that,' and she does. Next thing your wagon is stopping there."

"Do you see what I mean by the moving billboard?"

Black fell for this argument and tried it with one pretty vehicle as refined as his show windows and store. He is figuring on more of them. Black is not an isolated case. Some of the fleets of Dodge-Graham delivery wagons are growing very fast and the owners are charging a part of the running expense to the advertising account.



*One of the eight Willard service stations that will be part of Tobey's chain*

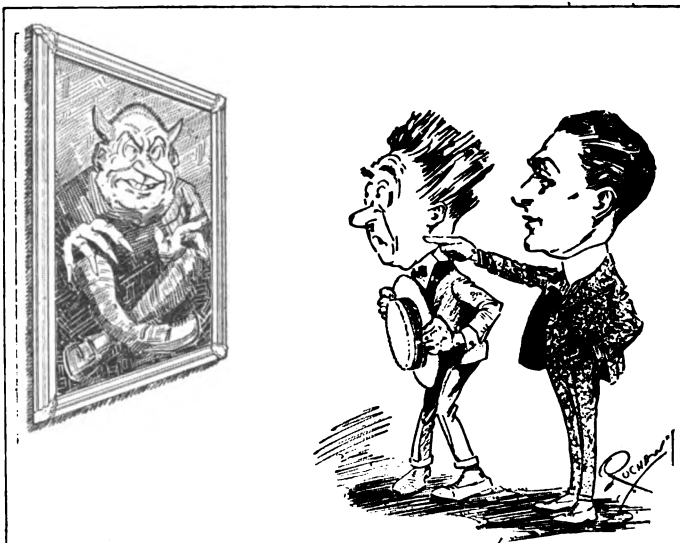


WHAT TO SAY WHEN THE PROSPECT SAYS:

# Your Competitor Cuts Prices

**THE LAST** *In a Series of Five  
Car Sales Stories*

By Ray W. Sherman



**"HERE'S a hot one!"** Tommy Trumbull, sales manager for C. J. Reilly, Inc., Sennett dealer in and about Callawassa, walked into Reilly's office.

"What?"

"One of the salesmen says a prospect told him that one of our competitors cuts prices and that if we wouldn't cut on a Sennett he would go over to our competitor and get a car at a cut price. Fine kettle of suey, isn't it?"

Reilly laughed.

And then Tommy laughed.

## Thought Price-Cutting Had Disappeared

"I thought those things were pretty well settled in this town," said Reilly. "I thought most of that stuff passed out in the year of the big flood and the rest of it when the big war began."

Tommy smiled. "So did I, but it seems to be bobbing up again. I guess it's part of reconstruction as viewed by prospects."

"Who encountered this odd breed of prospect?"

"Young Roper," said Tommy. "He's developed a lot of speed in the last few weeks and he's selling some cars, too. He seems to have come to life with a jump, and every few days he dashes into the office with another new objection that some prospect has made. He's getting some good out of these sales meetings we've been having. This is his latest suggestion for discussion."

Wherefore, the next morning when all the gang was together in the little old conference room and eyes and ears were open as wide as could be expected at that hour in the morning, Reilly, founder of the business and who had made more money for some of the dealers in town than they had made for themselves, smiled as he mentioned the subject and became very grave and serious as he began to tell the men of his business ideals.

ious as he began to tell the men of his business ideals.

"I thought these things had all been settled," he said. "There was a time years ago when the dealers in this town did cut prices, and it was a long, hard, up-hill fight to get them to see the folly of it. But year by year the boys who cut prices fell by the wayside and those who were left were of the more sensible, substantial type."

"Of course, when one of the dealers fell out generally there was a new one to step in, and often these new ones thought they were going to get the world by the tail 'with a down-hill pull by underselling everybody on the Row and getting an enormous volume of business. But—some of those who came in had sense and joined the group of sane men who realize that it cost money to do business and that there isn't any too much profit in a car if you get it all plus freight and everything else."

"Maybe one or two of the boys in Callawassa still cut prices, but I have my doubts. I KNOW that the real people on the Row would laugh at a man if he suggested such a thing. They have learned the lesson. They look down on price-cutting and the price-cutter as you look down on the besotted bum in the gutter who hasn't sense enough to know that he is his own worst enemy and is benefiting no one and hurting himself by his tactics—without the will to make a man of himself."

"When a man tells you one of our competitors will give him a car at a cut price, tell him that he should feel very friendly to this man who is willing to hand him that much money and that, in a spirit of friendliness, he should never mention that fact to another soul, because the price-cutter is a business and social outcast in Callawassa and the spreading of the rumor would mean a great injury in several ways to the dealer concerned."

## Cut Prices? Not C. J. Reilly, Inc.!

"The spreading of such a rumor would even be cause for a slander suit if it could be proved. Of course, no Sennett salesman would spread such a report and, as far as you are concerned, the story is safe and won't go any further."

"Furthermore, if it is true that this dealer is cutting prices you want to know it because you have been operating on the assumption that he was not and if he is it means much to the manner in which you conduct your business. Suggest to the prospect that you telephone at once to this man and find out if it is true, because you have a personal friend who is anxious to get a car at a bargain and you want to find out if it's really true."

"Tell him also that even though all other dealers in town cut prices and make long trades the house of Reilly is going to continue in business and be here year after year to serve the people who have bought Sennett cars from us and who need us here to serve them and make the ownership of their cars pleasant and satisfactory."

"Tell him that we never have cut prices. We have always made money every year, and that's why we are the biggest and most successful automotive house in town. We are just like other successful institutions in Callawassa. We have operated  
(Continued on page 40)

## The Five Stories in the Series Are:

- 1—"I'll Wait for Lower Prices" . . . . (April 30)
- 2—"I'm Not Ready to Buy Yet" . . . . (May 7)
- 3—"My Old Car Is Worth More" . . . . (May 14)
- 4—"Your Price Is Too High" . . . . (Last Week)
- 5—"Your Competitor Cuts Prices" (This Week)



Let's Have a



# "Humane Society" for Tractors

## THE SECOND OF FOUR ARTICLES

*On Tractor Selling, by C. L. Butler, president of Butler-Veitch, Inc., Oakland, Cal., distributor of Fageol products*

By C. L. Butler

**T**HE man who neglects his horses can be disciplined by the law. The man who neglects his tractor will be disciplined by the cost. Neither ignorance of the law nor of the tractor will serve as an excuse.

Before the tractor achieves the success that both the farmer and manufacturer anticipate it will be known and cared for. The farmer must be made to appreciate the tremendous amount of work done by a tractor—and particularly its motor—every season. He cannot continue to measure the life of a tractor in years. Things happen too quickly. The crankshaft revolves too many times—65,000,000 times an average season. Before long he will respect the tractor for its worth—for the amount of work it does both in acres covered and in work done under the hood. As soon as the farmer expects less he will get more from his tractor.

To the man who knows them, gasoline motors are simple. There is nothing mysterious about carbureters, magnetos, water pumps, connecting rods, clutches, gears, and the like. It takes time, but not excessive time, to make repairs. The good mechanic undertakes his work with his mind at ease. He knows that haste makes waste with a gasoline motor—absolutely and always. He knows, too, that a stitch in time saves nine—both in time and money.

It is not work—or the dislike for it—that bothers the farmer in the care of his tractor. It is uncertainty—doubt. He is not sure what is wrong. Nor will he be until he and the tractor get acquainted. The first tractor a farmer gets will cost him more than his second—it did with automobiles. I guess it did with horses.

You've probably had your brother's

## WHY This Story Was Written

**E**DITOR Motor World: We have followed with interest the three articles by Clyde Jennings: "Why the Man Who Is Going to Sell Tractors Should Know Them," "Why the Man Who Is Selling Tractors Should Know Them" and "Why the Man Who Has Sold Tractors Should Know Them."

We know every man who is selling farm tractors will benefit by reading these articles. We have, and we are making it a point to see that this series of stories is read by each of our dealers.

However, no matter how well informed or how capable the dealer may be, the greatest problem is still to pass on a portion of his information to the purchaser. We have found that practically all of recent tractor troubles can be traced to lack of tractor education on the part of the user. The dealer may be directly responsible for this, but in an effort to aid him in this educational work, we have prepared the enclosed articles.

We believe they may help other dealers as they have helped ours, and with this in view are submitting them to Motor World with the hope that they may be of some use in the near future. Very truly, Butler-Veitch, Oakland, Cal., Lloyd Veitch.

boy come from the city to visit you. Wanted to give him a good time, so you loaned him a horse for a ride. He was used to speed, so he galloped right along. Some city lads are ornery, but your brother's boy is not—just lots of enthusiasm. He wanted speed, and got it. Before he knew it, your horse was in a frothy sweat. So the lad stopped at the river to give him a nice long drink. If it weren't for the chickens it would have been a total loss. It sure happened quick—and the lad meant well. It cost \$200 to replace that horse.

Now get this! Ignorance about tractors—and horses—costs money. Here is an example: It is about four in the afternoon and 2 miles to the house. You forgot to put oil in the motor when you came out in the morning. You didn't realize it then. The tractor seemed to be heating more

than usual as you pulled up the long back slope.

At first you thought it was low on water. The water sure was hot, but there was plenty of it. It was a mighty hot day, at that—perhaps that was the reason. So away you go on up to the turn and around the corner on to the down slope. About this time you remember that you forgot to fill with oil when you left in the morning. A look shows that the level is low, all right, but the gage on the dash still shows oil.

You figure to yourself: "That tractor agent told me not to run without oil, but I guess she's got enough. I sure don't want to foot it back to the house, and I can't quit this time of the afternoon. Oh, well, a couple of rounds won't hurt it. Besides, she seems to be doing better on the down pull."

The tractor cools off enough before you reach the lower turn for you to just about for-

get it. Around you swing, and up the slope. Pretty soon she seems to lag a little. "It doesn't look like a hard pull—the plows seem to be coming along mighty nice, but it sure is needing more throttle. By gosh! What's the matter? Is this cheap heap goin' to lay down on a pull like this? Thunder! The oil gage isn't running. Well, if the darn machine ain't stalled! Lordy, boy, she sure is hot! Smell 'er, won't you! Don't look like she'll finish out the day. Too hot to do anything now. Guess I'll lay off and bring out the oil in the morning."

But it's all over—the damage is done. In the morning you find that she won't turn over. Can't crank her on a bet. Naturally not! Oil so low that the up pitch dropped the level below the rods and the oil pump. Hot when you rounded the corner, the motor froze tight as a drum in a few



minutes on the up grade. Too little oil and the pistons and cylinders are melted right together.

If you are lucky a reboring job and new oversized pistons will save something. Otherwise it's a new motor. A trip back to the house would have taken a good hour, but it would have saved a couple of hundred dollars and a lot of time.

Neglect costs money. Too much water killed the horse—not enough oil ruined the motor. A little in each would have saved both.

You wouldn't beat your horses through a hard pull. Then why beat your tractor? The slow lugging strain

of an overload is a terrible beating to a motor. It will stand a lot of work if it is given a chance, but it will quit in a few minutes of abuse. Remember, this, that your tractor motor does more work in a season than your automobile does in all its life. Respect it for the wonderful work it does and care for it accordingly.

If a horse goes lame he gets a rest or a veterinary. If a tractor goes lame—a missing cylinder, say—it gets more work. Oftentimes the operator does not even recognize the difference—except maybe the job seems short of power. Or if he does he figures he can get by till quitting time. He can—but not for

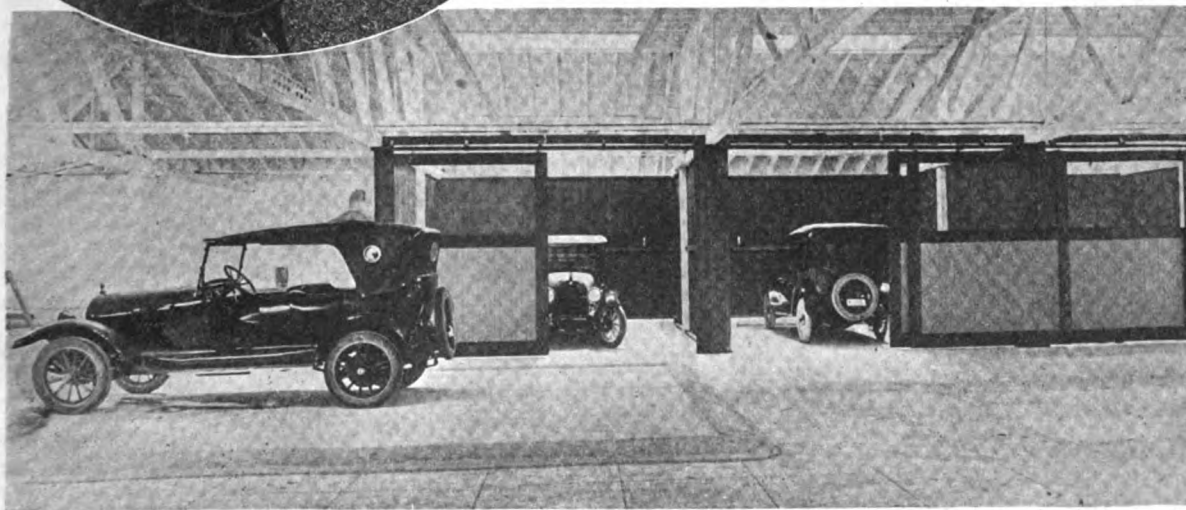
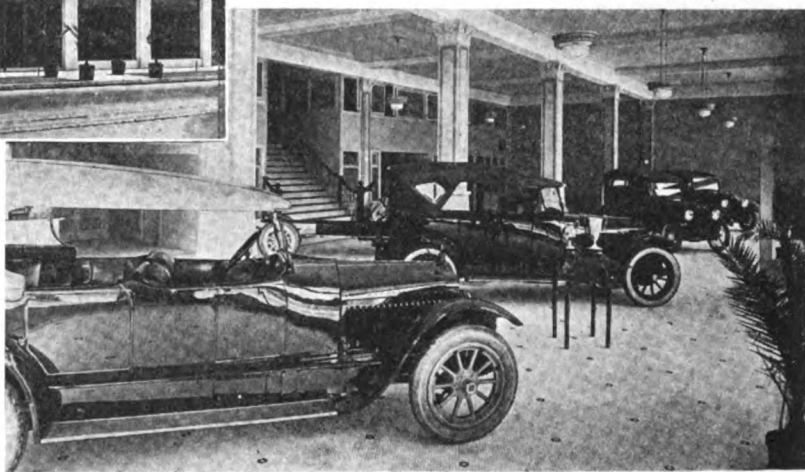
nothing; it will cost money to run a sick tractor as it does to run a sick horse. Some day the farmer will be as sensitive to the abuse of a tractor as he is to the abuse of a horse. His senses will warn him before the damage is done. In the meantime it will cost him more to operate his tractor. Education costs both effort and money; but it is worth it.

Manufacturers will eventually organize a "Society for the Prevention of Cruelty to Tractors"—possibly under another name. But the work to be done is the same—a more concerted effort to get the information to the farmer and see that he uses it. It will sell more tractors and keep them sold.

## All Set—Now Going Ahead



THE O. R. Fuller Co., Los Angeles, has prepared for after war business by building and occupying a new structure that represents an investment of \$200,000. This firm distributes White trucks and passenger cars and Stephens cars. For years it occupied a building remotely removed from automobile row, but the new home is on Figueroa Street, the new center of trade, and occupies one of the most prominent corners directly across the street from the quarters of the leading women's club of the city.





A Department of

# BETTER MECHANICS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## NEXT WEEK—

# Save Money in FORD REPAIRING!

### MAKE MORE MONEY ON YOUR SERVICE

*A complete course in Ford repairing will be conducted in the Better Mechanics Department of Motor World. It will show how to*

**O**PERATE with labor-saving methods and machinery. Weeks of time and hundreds of dollars can be saved by the use of modern methods and machinery. Some of this machinery you already have, but many shop operators have found that there are uses for their machinery that they didn't know about. And often the addition of some small tool will make it possible to perform a series of operations in a way that saves time and money. You can't afford to miss this series—and you should preserve it and have it always available for study by your organization. It will put your shop in position to make more profit.

The series, *beginning next week*, will take up first the organization of the shop, then the Ford power plant. The major subjects in order are:

- |                     |                             |
|---------------------|-----------------------------|
| I—Ford power plant. | IV—Chassis frame and dash.  |
| II—Rear assembly.   | V—Body, top and windshield. |
| III—Front assembly. | VI—Steering gear.           |

The Ford Power Plant chapter will be sub-divided as follows:

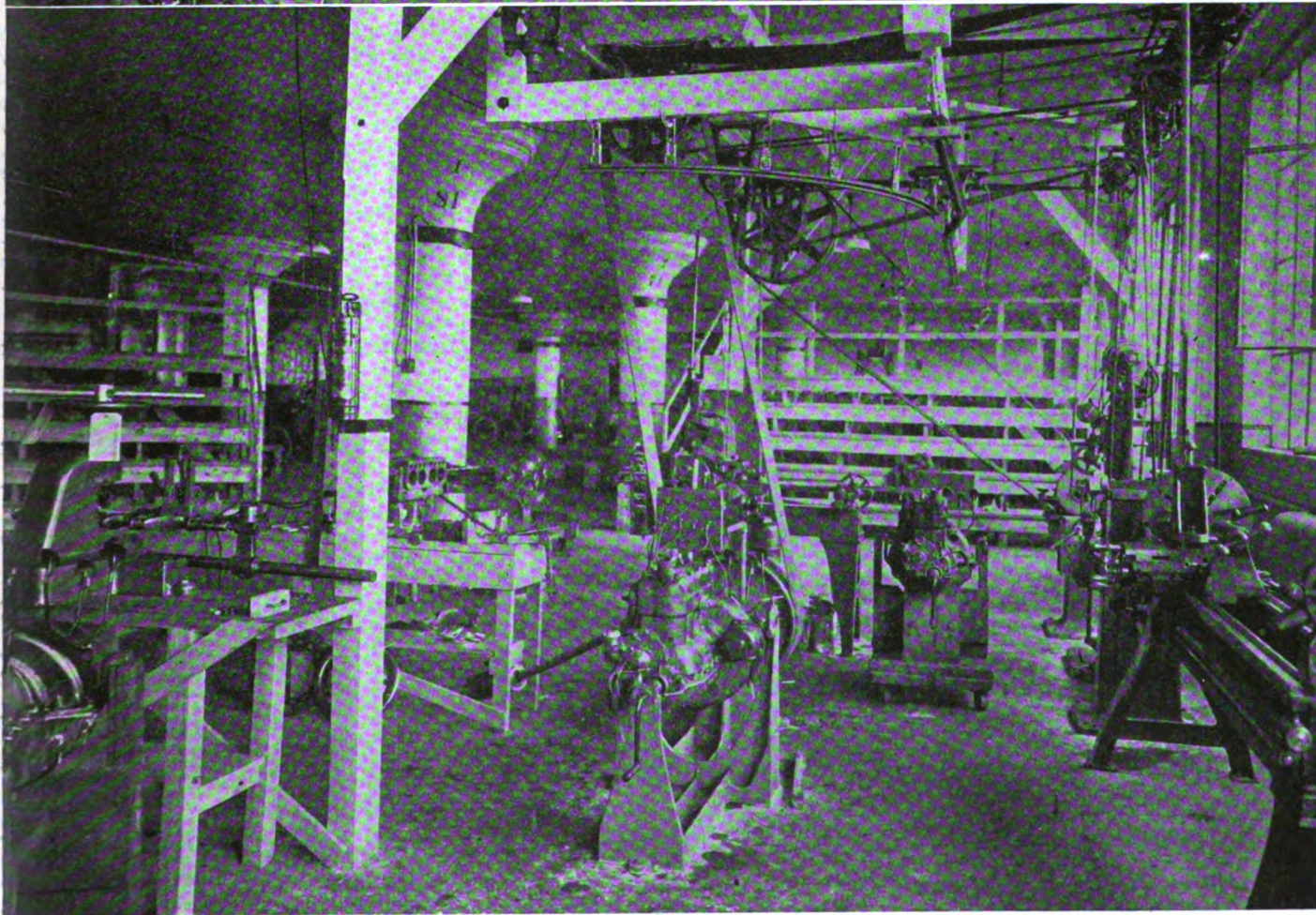
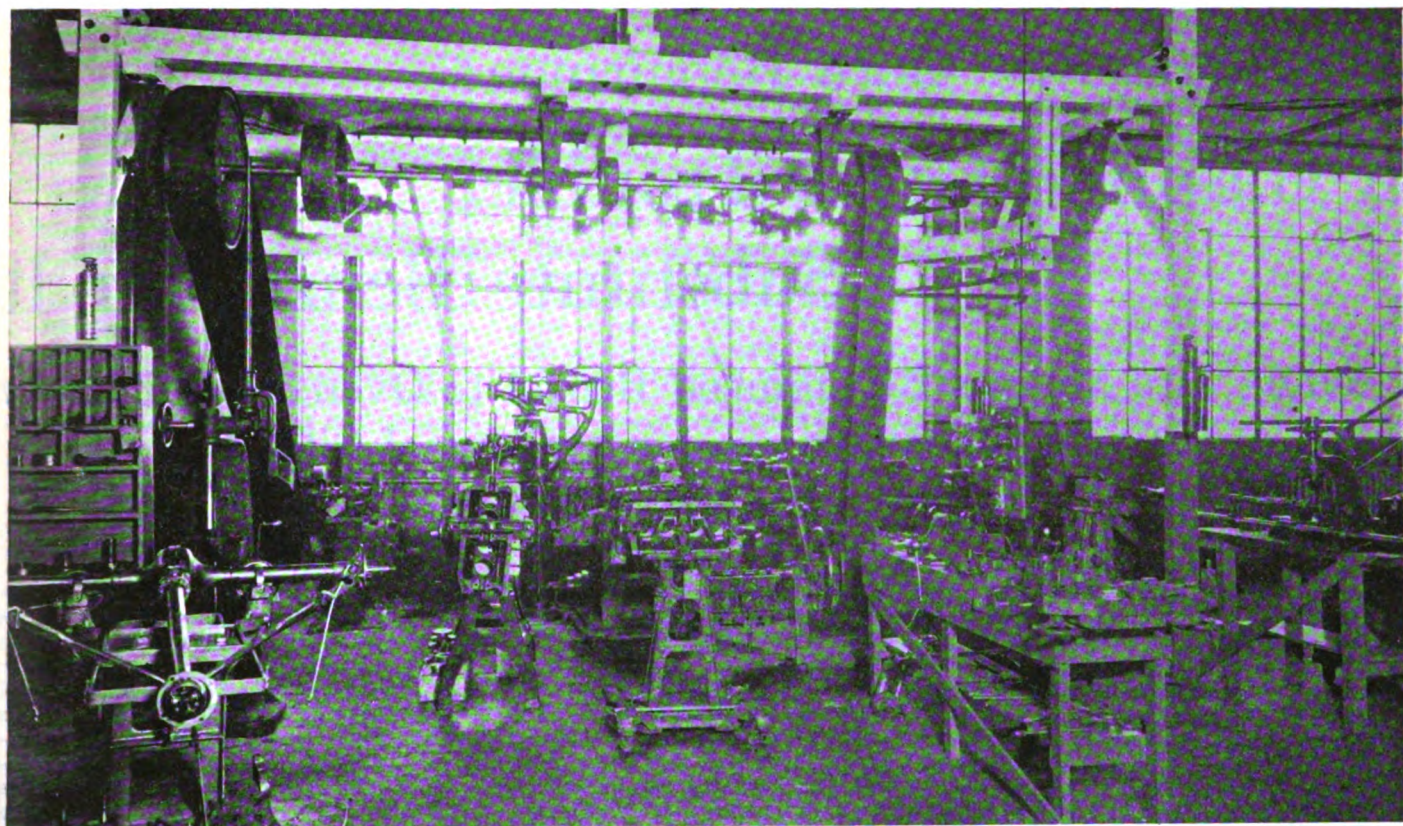
- |   |   |
|---|---|
| 1—Removing the engine from the car.                   | 10—Overhauling the transmission.                                |
| 2—Taking down the engine and transmission.            | 11—Testing, repairing and overhauling the magneto.              |
| 3—Testing the crankshaft and rebabbitting the block.  | 12—Assembly of engine and transmission.                         |
| 4—Burning in the bearings.                            | 13—Testing of the engine.                                       |
| 5—Reboring the cylinders.                             | 14—The ignition system.   |
| 6—Aligning connecting rods.                           | 15—The radiator.  |
| 7—Refacing valve seats and reaming valve-stem guides. | 16—Gasoline tank, pipe, strainer, muffler, lamps and equipment. |
| 8—Removing carbon and grinding valves.                | 17—Replacing the power plant and equipment in the car.          |
| 9—Fitting new pistons and piston rings.               |   |

*Coming Next Week—Don't Miss the First Story*

**Make Money in 1919**

**Make More in 1920**





## Modern Machinery for Ford Service—

*Here is a group of labor saving machinery for Ford service. This installation was made at one of the Ford branches to show dealers how to equip their shops and to use to better advantage the machinery they have*



# Tire Repairmen: If Gasoline Gives Trouble, Substitute Benzol for It

## Leading Tire Makers Recommend Benzol to Overcome Difficulty Caused by the Excessive Amount of Oil in Present Grades of Gasoline

**B**ENZOL can be used as a satisfactory substitute for gasoline in tire repairing. Some of the larger tire manufacturers, in fact, recommend that it be used entirely in place of gasoline, because of the possibility of greater uniformity of good results.

With present grades of commercial gasoline there is always the danger that the large amount of oil in the gas will result in poor adhesion between the repaired parts.

Cleanliness is one of the prime requisites of good vulcanizing. It is largely to obtain perfect cleanliness that gasoline is used. The idea is to remove the last vestige of oil and grease from the parts to be repaired. But if the gasoline contains a large amount of oil—and it is scarcely possible to tell the difference between gasoline and kerosene, these days—great care must be taken to see that every bit of gasoline evaporates before any attempt is made to complete the repair.

Some vulcanizing men are getting good results by purchasing only high test gasoline. This is a little more expensive, but the expense is offset by the certainty of better results.

### How to Test Gasoline

In general, a fairly good way to test gasoline for oiliness is to put perhaps a teaspoonful on a sheet of clean paper. If it all evaporates in a reasonable time, leaving no oily residue, it is safe to use the gasoline. But if the lighter parts evaporate quickly, leaving an oil ring that takes a long time to evaporate, the gasoline is hardly suitable and should be used only if nothing else can be obtained, and then only with great care. Be certain that it has plenty of time to dry.

This precaution is particularly necessary in mixing cement with gasoline that gives indication of being oily. Such gasoline may evaporate fairly rapidly when used only for cleaning, but when mixed with stock to make cement it evaporates

much more slowly, and a correspondingly longer time must be allowed for the solution surfaces to get "tacky."

### Benzol Eliminates Trouble

In the opinion of many of the larger tire companies, all these difficulties can be overcome through the use of benzol. In fact, they find only one disadvantage to benzol, and that is its quality of solidifying at normal winter temperatures.

Benzol will crystallize, or, in other words, freeze, at about 32 deg. Fahr. This makes it very difficult to use in the winter unless the shop is well warmed. However, this trouble is not present in the summer, of course.

Another possible disadvantage to benzol is the fact that it evaporates much more rapidly than does gasoline. This is an advantage in that it shortens the time ordinarily required for repairs. But it brings the danger that cement may become a little too dry—pass the "tacky"

stage—before the repair can be completed. In other words, the repairman has to watch more carefully when benzol is used than when he is using gasoline.

The quick rate of evaporation of benzol requires a well-ventilated shop. There have been some complaints from workmen using benzol on this score, the principal trouble being headache. But if a shop is well ventilated, particularly in the winter, there will be no trouble.

Benzol is a coal-tar product very much like gasoline in appearance. It is highly volatile—much more so than gasoline—and the workman must be careful not to bring an open flame near it. It is readily obtainable at practically any gasworks, and the present price is about the same as for high-test gasoline.

In order to get the opinions of a number of leading tire and vulcanizer manufacturers on this subject, *MOTOR WORLD* wrote to a couple of dozen. Their replies are given herewith:

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## WHAT TIRE MAKERS THINK OF BENZOL

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Editor Motor World: It has been the experience of our tire repair department when using '56, '58 and sometimes '72 gasoline, to attribute faulty work to the quality of the solvent, and as a matter of safety we have for some time been using benzol for this purpose, with very good results.

It would be our recommendation to the trade to use benzol not only for cleaning repairs and materials but also in thinning cements when necessary.

There is no economy in using the cheaper grades of gasoline, as oil is considered the natural enemy of rubber.—Firestone Tire & Rubber Co., James D. Fitzharris, Sales Engineering Department.

### Benzol a Better Solvent

Editor Motor World: We beg to acknowledge receipt of your letter of the 6th, in which you state you have heard some complaints recently from the tire

repairmen with regard to the quality of gasoline they are getting and the difficulty they have in using this gasoline in making proper repairs.

You ask us our opinion on this subject and also on the comparative value of benzol as a solvent in repairing tires.

Will say we are using both gasoline and benzol in the making of our tires and in preparing our sundries. At the present time we are getting a quality of gasoline that is entirely satisfactory, and we have no fault to find with the quality of the benzol.

There is no doubt but what benzol is a better solvent for rubber than any other solvent known. It has no disadvantages when used in cements or in repairing tires other than the fact that in extremely cold weather it will freeze.

At the time when benzol was about 300 or more per cent higher than gasoline it was always the desire of the repairmen to use benzol in their cements.



but I find since benzol has become cheaper than gasoline that there is a great objection to its use, principally due to the fact that repairshops are generally small and ill ventilated and the quicker evaporation of the benzol causes considerable annoyance to the men engaged in the repair business.

Just before the armistice was signed there was in this section of the country at least a shortage of gasoline, and as our supply was not reliable we undertook to use benzol entirely in our work and also in the making of our cements.

This cement was very widely distributed among our distributors and we received a very serious complaint from our Denver branch. It seems that according to some municipal regulations rubber cement was not permitted to be kept in the stores, but had to be stored in an outbuilding, and as the weather in Denver during the winter is extremely cold the cement froze and the Denver manager in making the complaint said that when he wanted any of it he had to go to the outbuilding for it and had to cut it off in chunks with an axe instead of drawing it out in a liquid form, and therefore he returned the cement to us.

*With the exception of this disadvantage in cold climates the use of benzol is superior to any gasoline that is made.*—Lee Tire & Rubber Co., John Kearns, General Manager.

#### No Gasoline Necessary

Editor Motor World: We have had some little trouble in cleaning repairs properly with the lowest grades gasoline which are on the market, and while we have had success by using higher test gasoline, we have never attempted to use benzol.

In a majority of tube repairs and in some casing repairs the use of gasoline may be dispensed with providing the repair is given a thorough cleaning with sandpaper or a rag. The cement will take hold of a surface cleaned that way just as well as it will if gasoline is used, and really the only purpose of the gasoline is to wash off the dust and scrapings which are stirred up by the use of the sandpaper or the rag.—C. A. Shaler Co., M. E. Faber, Adv. Manager.

#### Does Not Recommend Benzol

Editor Motor World: I have investigated here in the factory repair department and find no such difficulties have been experienced and no reports from elsewhere of a similar nature have been received.

I am informed that the amount of oil that exists in the present grades of gasoline isn't too great to prevent good results. In fact, our experiments have shown that even where added oil has been used the best results have been obtained.

I am inclined to believe that the difficulties experienced are not due to the presence of oil, but to lack of proper handling of the stock under the conditions. It is very likely that the stock isn't allowed to dry sufficiently before applying it to the repair, which would naturally result in improper adhesion.

The same difficulty would be experienced from allowing it to dry too long, as if not allowed to dry enough there is a certain point when the rubber acquires a certain tacky condition when it should be applied, and this is acquired, of course, with experience, and even with the existence of oil, if the proper time is used, we are sure the best results will be obtained.

Regarding the use of benzol as a substitute for the present grade of gasoline, we would not recommend this, because it dries so rapidly that it is much more difficult to operate with. The object in using gasoline is to produce the tacky effect on the rubber, which is only acquired through the rubber absorbing the gasoline, and the benzol dries so quickly that the rubber compound hardly absorbs it, unless applied in unusual quantities.

We would recommend the use of the present gasoline in preference to the benzol for the reasons mentioned, and, as stated, we are satisfied that satisfactory results will be obtained under the proper drying process.—The B. F. Goodrich Rubber Co., M. E. Fassnacht, Manager Service Department.

#### Benzol Very Satisfactory

Editor Motor World: We find that the average commercial gasoline has so much oil in it that it is not suitable for use in repairshops.

After the gasoline evaporates it leaves a thin film of oil wherever it has been used, and this of course is very injurious to rubber.

We are recommending that all repairshops secure very high-test gasoline, or, where it is available, benzol. In our factory we use large quantities of benzol and find it very satisfactory. Recently

we have been making a few experiments with Energine and find that it works out very well in our tire repair school.—Goodyear Tire & Rubber Co., H. A. Lane, Products Department.

#### Benzol Would Improve Work

Editor Motor World: The usual difficulty encountered with using gasoline is due to the fact that the present-day commercial gasoline is little better than the material that was previously sold as kerosene. As mentioned in your letter, it contains hydrocarbons whose boiling points are so high that the solvent evaporates very slowly. Furthermore, these high boiling point hydrocarbons are rather poor as solvents of rubber at ordinary temperatures.

We have used benzol extensively as a substitute for gasoline, and find that it is extremely satisfactory so far as the quality of the work is concerned. There is some objection, however, due to the physiological effects of its vapors. While not dangerous, if used in a poorly ventilated room it is likely to cause the repairman headache. Good ventilation takes care of this perfectly.

Another fault that has been found with benzol is that, due to its high rate of evaporation, it condenses moisture from the air on damp days, and consequently on such days care must be taken to get good adhesions. This matter is usually remedied by working in a warm room, and so far as practical use is concerned this practice to our knowledge has not appeared serious so far.

*We believe that if benzol were substituted for gasoline in all repair work there would be a great improvement in the quality of the work.*—The Miller Rubber Co., M. M. Harrison, Chief Chemist.

### Here's a Desert Garage



SOMETIMES the dealer must have a lot of nerve, as C. W. Fischer certainly did when he built a concrete garage of mission type in the town of Palmdale, Cal. There are not a dozen houses in Palmdale, which is located about 75 miles north of Los Angeles. Scattered about the mountain slopes that encircle the valley are many ranches. Their sole means of transportation is by motor. Fischer realized these ranchers could not exist without automobiles and last year he sold 26 cars to them. This year he expects to make the number 30 at least. He represents the Buick and Chevrolet lines, and this spring took on a tractor line in addition.



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

We shall be glad to draw a plan for you or give you any other aid in your building, free of charge. But be sure to send full details, including a sketch of the plot, showing position of streets

### Some Questions on Design

EDITOR MOTOR WORLD: We have been commissioned to design a garage for H. F. Butterfield & Son, the Reo agents in this vicinity. The site is of irregular outline, as indicated on marginal sketch.

1—Mr. Butterfield contemplates utilizing the basement space for storage, with a ramp to provide accessories. Inasmuch as the site is practically level, and the only possible means of gaining light and ventilation into this space is through the windows along the south wall, beneath the work bench, I am wondering what your recommendation would be as to the utilizing of this space.

2—What is your judgment as to the slope of the incline, which in this case will drop 11 ft. in 44 ft. of length.

3—I also would be pleased to have your judgment as to the proper load on which to compute the strength of the first floor. We contemplate that this building shall be of fireproof construction.

4—The building may eventually have the work shop located on the second floor, the live storage on the first floor, and dead storage either on the third floor or in the basement.

5—What is your idea of a reasonable charge per month for dead storage and live storage?—John Hanifen, Architect, Ottawa, Ill.

We are inclosing a plan, but before discussing it let us answer the questions raised in your letter.

1—We have no use for a basement except as a place to put a furnace or perhaps, in some cases, store accessory stock. Better have a second story instead. Then you will have light, ventilation, dry floors and not only will the space be more in demand but it will command a higher price. Garage space is an article of merchandise, and basement space is an inferior brand not usually much in demand.

2—Twenty-five per cent is a rather steep grade for a ramp. A car in fair running order will climb it, but it is really so steep that it is dangerous, particularly because brakes may not hold. There are quite a few cars being driven around, especially in level country, whose brakes are not in condition to keep them

in control on a 25 per cent grade. Fifteen per cent is a conservatively safe maximum.

3—Safe load may be taken as 150 lb. per sq. ft.

4—Whether the workshop is located on the ground floor or the top floor depends on conditions. If the shop requires close supervision by the same man who looks after the showroom, accessory store, etc., then it is convenient to have them on the same floor. At the same time the shop on the top floor offers advantages in that the light is better. Apart from these considerations, really usually of secondary importance, we locate the shop according to where it fits best into the remainder of the plan; this is the reason it was placed on the first floor on the plan herewith.

5—It is impossible for us to state what is a reasonable charge for storage in your territory inasmuch as this varies in almost every town. Figure out what the space costs per car per month, add a reasonable profit and use that. If this rate should be high and it is really necessary to meet competition rather than selling your trade up to your price, then telephone a few neighboring garages for their rates. It is not necessary to disclose your identity in doing this, if there is any objection in so doing.

The plan should be clear except for two or three details. The washrack is the width of two cars and machines can be stored here when washing is not being done. A thin partition on the third side will prevent spattering adjacent cars.

A series of sliding doors gives entrance to the shop. Their use makes it possible to run a car into any part of the shop without maneuvering, assuming that cars in the front row will usually be out during the day.

### Large Garage on Corner

Character of business—Sales, service but no storage.

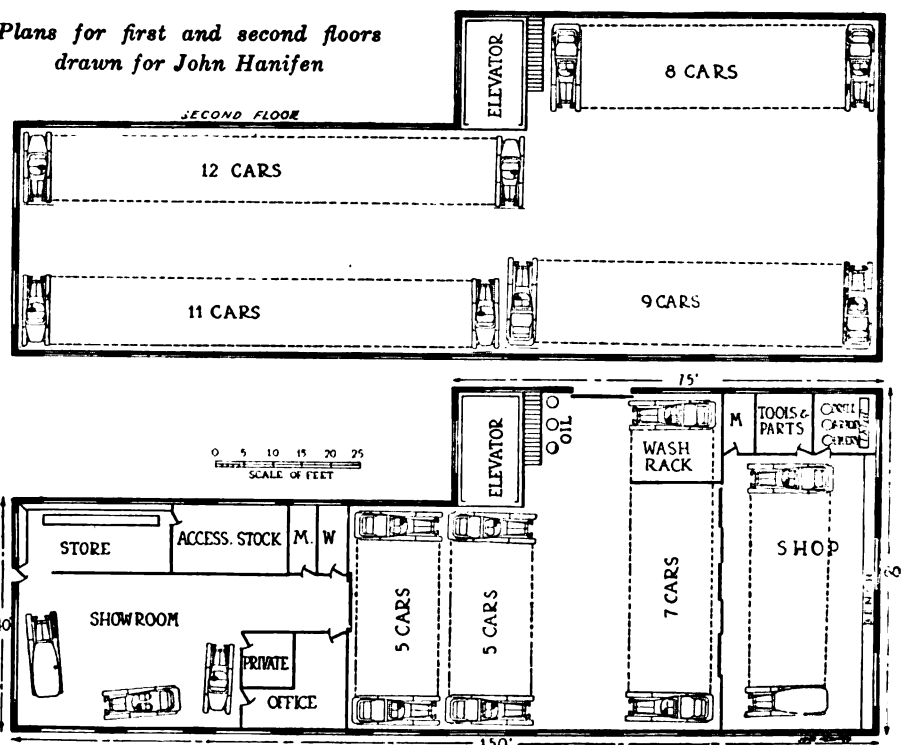
Details wanted—Corner lot 128 x 200 ft., two floors on main street, balance one floor, liberal size showroom, offices, stockroom, battery department, general garage requirements, space for 60 cars.

Name—Frank F. Matheson, Wilkes-Barre, Pa.

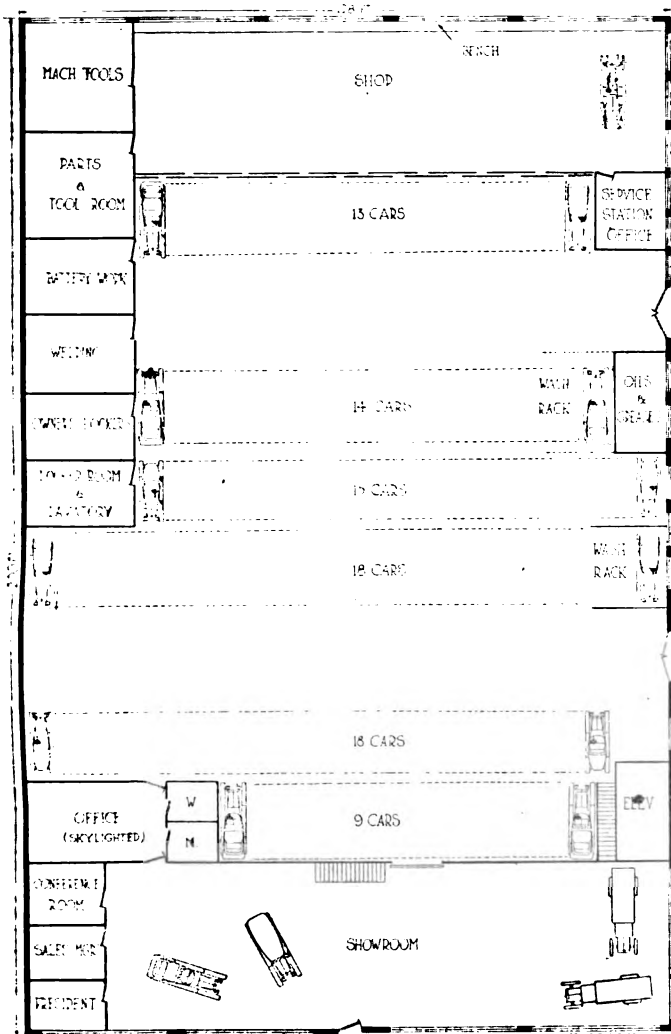
Answer—It is exceedingly difficult to lay out a building of this size and have our ideas meet your ideas at every point, and therefore, if you find that it is not just what you wanted we shall be very glad to change it to suit you.

The showroom is a large unbroken rec-

Plans for first and second floors  
drawn for John Hanifen







A very large and comprehensive plan for a building intended for sales and service only—no storage. There is space for sixty cars and a second floor is to be built over the front portion. Designed for Frank F. Matheson

tangle which utilizes practically the whole of the frontage, thus giving you a maximum of window display space.

It was deemed advisable to place the offices for sales manager, president and conference room at one end of the showroom. The president's office is lighted from the street, and the sales manager's office gets its illumination from glass panels in the partitions between it and the president's office and it and the showroom. The conference room is similarly lighted. The latter is for morning meetings, and during the day may be used by salesmen for closing prospects.

The most desirable place for the office seems to be adjacent to these rooms and it can be adequately lighted and ventilated through a skylight if windows cannot be used.

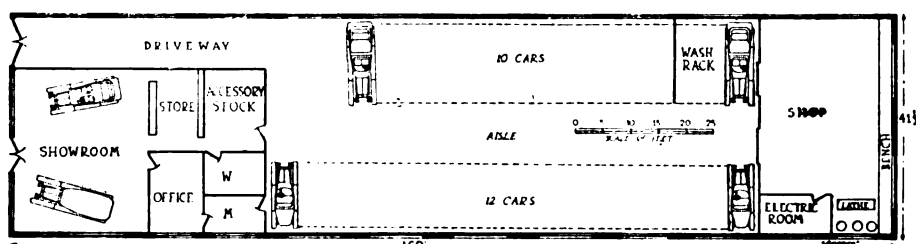
The shop is placed along the rear and is provided with a series of sliding doors so that a car may be run right into the space which it is to occupy. The space directly in front of these doors is designated for car storage, but this will not cause any difficulty if these cars are ones which are usually out in the daytime—demonstrators and the like.

The second floor is devoted entirely to the display of used cars. If you consider the matter carefully we believe that you will agree that this is by far the best place for this department.

The shop departments which you asked for have been placed at the rear along the wall and can be adequately illuminated and ventilated by skylights in case windows cannot be used on this side. In addition to the rooms you requested we have added a locker room and lavatory for the men, a welding room and a locker room for owner's belongings. The last is a feature that we feel sure you will appreciate. When a man brings his car in for an overhaul, all movable articles such as lap robes, spare tires, tools and the like are carried off to the locker room and locked up in a compartment there, thus protecting them against loss or injury.

You failed to state which corner your plot is on, so it may be that our plan is the obverse of what you desire.

There is storage space for 87 cars.



All-purpose garage for "Reader"

We have shown the first-floor plan only, as the layout and extent of the second floor is very simple to work out.

## Turning a Barn Into a Garage 50 Ft. None Too Wide

*Character of business—Service, sales, tires, accessories, washing, storage, oil and gasoline in town of 1000 population.*

*Details wanted—Showroom, stock-room, office, battery room, toilets, shop, storage space, heating system in basement.*

*Name—Reader, Breckenridge, Mich.*

**Answer**—We strongly advise you not to build on a plot less than 50 ft. wide, as otherwise your aisle will be too narrow. In order to demonstrate the difficulty in maneuvering cars in and out of spaces in such a garage mark out a space on the ground 7 by 39½ ft. The lot is 41½ ft., but subtracting 1 ft. for the wall at each side leaves 39½ ft., and 7 ft. is about right for the width of a car space.

Place one car in one end of this 7 x 39½ ft. oblong and then attempt to back into the other side with another car, the same as you would have to do in your garage. After backing in, try driving out also. You will find that such a garage is barely usable when short cars such as Fords are used, but with a couple of light sixes it is out of the question.

The only way to use this narrow plot successfully is to employ a swivel jack of some sort to swing the car in and out of its space. There is no really serious objection to this as far as we can learn except that an attendant must always be on hand to man it. For this reason their use is not very general.

## Packard Buys Airplane Field

DETROIT, May 23—The Packard Motor Car Co., about to commence production of a commercial airplane, has purchased a large tract of land on the outskirts of Detroit for use as a private experimental flying field in the development of its aviation program. The field lies between Detroit and Mt. Clemens and is large enough to permit the landing of any kind of airplane.

## Knudsen Heads Duluth Dealers

DULUTH, May 24—New officers of the Duluth Automobile Trade Association are: President, H. B. Knudsen; vice-president, J. T. Peacha, Jr.; secretary, Gilbert Sherman; assistant secretary, George Wilson; treasurer, R. W. Foster.



# Editorial Observation

## That War Tax

**J**UST as the war tax seemed to be all settled it is discovered that it is not settled *at all*, or, if it is settled, that it is settled in such a manner that protest by the dealers is necessary.

Under the old law which went out as the new one came in February 24, it was held that a dealer who adds a body to a chassis becomes a manufacturer and must pay a tax, less any tax that had been paid.

Dealers, especially truck dealers, had not been anticipating any such ruling and many of them were caught at the end of the year with an uncalculated tax assessment which meant a severe money loss. An effort was made to secure an adjustment, but nothing much happened.

And then came the new law. When this was made effective Motor World was assured by the New York office of the Department of Internal Revenue that all taxes were to be collected from the manufacturers of chassis and bodies and that the dealer was not to be molested. As Motor World sees it, a point must be severely strained to construe a dealer as a manufacturer in such cases as these.

On the basis of the assurance of the revenue man, Motor World passed this ruling along to numerous inquiring readers. Then one reader wrote in and said he had been notified that if he put a body and chassis together he would be classed as a manufacturer. Wherefore, Motor World ran this ruling down and found that several local collectors had so ruled.

In one case, when the matter was taken up with the local collector he stated that the dealer was mistaken. He said that if the dealer established his status as a dealer he could put a chassis and body together without tax.

Here were conflicting rulings by different local representatives of the Government's revenue department. Meantime Motor World's Washington representative had made futile efforts to get the revenue department headquarters to say something definite on the subject. No definite ruling could be secured.

At present the matter stands in a somewhat uncertain state.

Meantime, Motor World, its representative having failed to get personally a definite answer to questions from officials in the department, laid all the facts before Commissioner Roper in a letter, setting forth the structure of the trade, that a manufacturer is one thing and a dealer is another and stating the opinion of the local collector who seemed to understand this.

At present we are waiting for an answer to the letter.

Efforts are also being made to get the facts before Commissioner Roper through other channels, and it is not unlikely that the National Automobile Dealers' Association will take some definite action if the matter is finally and definitely ruled to the disadvantage of the dealers.

No one has any criticism to make of Commissioner Roper. He is an able man at the head of a big department. To help him he has many assistants. Many of these men do not understand the fabric of business. They do not understand how raw materials begin at one point and go through a series of steps to the consumer and that there is such a thing as a manufacturer and such a thing as a dealer. They cannot be expected to understand everything because they are only human, but a better knowledge of the motor car and allied businesses would help amazingly at this time.

Wherefore, the matter will, if possible, be laid before Commissioner Roper himself and it is hoped that he will establish once and for all the principle that the dealer who buys a chassis in one place and a body in another is simply a merchandiser and is not trying to evade any tax. The tax has already been paid by the manufacturers, and any additional tax that is levied becomes simply a tax on the dealer's profit, which the law, we believe, never intended should be taken.

Prudence should be exercised by both sides in this matter. The trade should remember that the business of being a Government official and the business of being a business man are two entirely different things. There are matters in which each can help the other.

However, the Government officials should not forget one big point, which is that the Government is supposed to be of the people, by the people and for the benefit of the people, and that any attitude or arbitrary rulings which work a hardship or which create ill-will toward the Government are bad judgment.

Meantime, if local collectors rule in any way whatsoever there is only one way out and that is to *observe the ruling*, attaching any protest you see fit.

OBSERVE THE LAW, pay what taxes are demanded and be ready to render support if it is needed.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Wants Catalogs

Editor Motor World: Will you kindly mail us a copy of the Summer Merchandising number which was issued several weeks ago? Our office and garage here at Leighton was destroyed by fire last week. You might make mention of the fact in the next issue of the Motor World. All our price lists and catalogs were destroyed in this fire; you might mention this fact and state that we would be pleased to receive catalogs and price lists from accessory and automobile manufacturers.—Serfas Motor Car Co., Leighton, Pa.

## Charging Batteries from a Farm Light Plant

Editor Motor World: We have a Delco light system, 110 volts, and wish to recharge storage batteries and magnets on magnetos, and would thank you for this information.—Roggen Motor Co., Roggen, Col.

**Answer**—You can very easily recharge storage batteries from the 110-volt lighting plant that you have. You can charge these batteries either one at a time or you can put two batteries in series, thus shortening the time when a number of batteries are to be charged.

In order to regulate the amount of current that goes through the battery it is necessary to use a rheostat or a lamp-bank resistance. If a rheostat is used it is placed in series between the battery and the source of current and the arm of the rheostat is swung around until the proper amount of current is going through the battery.

The charging rate varies according to the size, capacity and thickness of the plate of the battery. Every maker has experimented on this subject and a chart of charging rates can usually be obtained,

## Shop Machinery

**TO-DAY** is the day of labor saving. Men don't do work that machinery can do as well.

Are you doing anything of this kind in your shop?

Have you saved labor by installing any new machinery?

If so, tell the other readers of Motor World what machines you are using to save labor. Tell what they have done for you.

Did you see the little question on this page May 7 about building? We have received a wonderful answer on the subject. It is full of inspiration and will appear on this page soon.

Meantime, let's have a word from YOU on this subject of shop machinery.

What you say may help some other man.

for each different make and model. A rough rule that will be approximately correct for all makes of batteries is that the initial charging rate should be one-tenth of the ampere-hour capacity of the battery and the finishing rate should be one-twentieth of the ampere-hour capacity of the battery.

In order to get this charging rate correct, it is advisable to use an ammeter in the circuit and this will show exactly the number of amperes that are passing through the battery.

If a lamp-bank resistance is used the amount of current going through the battery is controlled by the number of lamps which are cut in. As a rough rule one 16 c.p. lamp will allow  $\frac{1}{2}$  ampere to pass, one 32 c.p. lamp will allow 1 ampere to pass, etc. If you want to be

exact, the current should be run through an ammeter as with the case of the rheostat and then you can tell just how much is going through the battery, because the lamps may vary, owing to difference in make, age, etc.

In connecting up the batteries, it is vitally essential that they be connected in the right way or damage will result. The positive lead from the current source is connected to the positive of the battery. The negative of the battery is connected to the negative of the current source. If two batteries are being charged in series the positive of the current source goes to the positive of one battery, the negative of that battery to the positive of the next, and the negative of the second battery to the negative of the current source.

We would refer you to answers which were published in our issues of Jan. 1, Jan. 22, March 19, and April 2.

We assume from your question that it is your intention to remagnetize magnets on the Ford magneto. It is not advisable to attempt this because it is almost impossible to magnetize magnets uniformly. The practice is not recommended by the Ford Motor Co. nor is it practiced in any of their branches or in any of their service stations.

## Letterhead Design

Editor Motor World: I am a subscriber to the Motor World and have seen letters from different readers asking that you design for them letterheads and cards, and I have seen some good ones. Now I wish you would make a good one for me. I expect to open a repair shop at Kennebunkport, Maine, and I am going to have an Ambu Electric Trouble Shooter and do oxyacetylene welding and general all-around repair work. I wish you would get me up a letterhead and a business card.

I do not expect to carry any supplies this year, as I have a small shop.—A. W. Clark, Medford, Mass.

**Answer:** We are printing a letterhead which we hope will suit you. We have not made up a business card, but suggest that in the center of the card you put the name of your company, in the lower left-hand corner your name as proprietor or manager, and in the lower right-hand corner your address. Do not attempt to put much more than that on the card.

## It's a Dandy!

Editor Motor World: We have that long-looked-for Summer Merchandising Number and, believe me, it's a dandy; chock full of golden ideas.—H. R. Wolf, The H. R. Wolf Garage, Cleveland.

## THE CLARK SERVICE STATION

A. W. CLARK, Proprietor

REPAIRING, VULCANIZING  
OXY-ACETYLENE WELDING

AMBU ELECTRIC TROUBLE SHOOTER, STARTING  
AND LIGHTING SYSTEMS, ELECTRICAL TESTING

KENNEBUNKPORT, MAINE

*In arranging letterheads according to Motor World designs, the local dealer should make his printer follow the indicated type styles very carefully. Much depends upon this*



## Double in Three Years

Editor Motor World: I have been a subscriber for Motor World for several years and look for it every week to get some real first-class pointers for good business.

I am enclosing a copy of a letter I sent every Ford owner in this county, and am also sending you a photograph of my garage. I only have a little over half of the county and by close watching after the owners of cars have doubled the size of my building in less than three years.—Jess D. Heybach, Leitchfield, Ky.

### The Letter

The time has come when you will want to enjoy your Ford. I have a few things to tell you and every other Ford owner in Grayson County. I have added a building, 40 x 107, to my garage in order to give better service and to take care of you this summer. You know by past treatment that you are always welcome, so drive in.

Now before you start out this spring, come in and let us look your car over and advise you as to what you need. Let us take the old oil out, flush your motor with kerosene, put in a gallon of new oil and fill your differential, for which we have a force pump, putting the grease where it belongs. I want every Ford owner to get the best out of the best car made.

I have in stock a full line of the following tires: Goodyear, United States, Firestone, Fisk, Hartford and Michelin; with tubes of same make. A complete stock of Ford parts, and right here let me tell you one fact, do not let anyone use anything but genuine Ford parts in repairing your car. My advice to you is always go to the Ford dealer. He, more than anyone else, is interested in your car, and it stands him in hand to give you the best.

I have a parcel room where you can store your packages, leaving them in perfect safety. The Ladies Rest Room your families have already enjoyed, so let's make the Ford Garage in Leitchfield a real get together place where you will always find us ready to do the best we can for you. I have three (3) of the best mechanics in the State. They are the type of men who are always on the job. They are co-workers with me in the service which we, with your co-operation, are trying to give the Car Owners of Grayson County.

Now a word about the Fordson Tractor. I have this machine in stock

## Boy, Put On the Chains

By C. H. Stanton Massey\*

When the day grows dim and the sun goes in,  
Don't wait until it rains,  
Before the "old bus" glides and her rear end slides,  
Boy, put on the chains.

When you feel the first drop, it's time to stop;  
It will pay you in the end.  
You're prepared for the worst, and you'll get there first  
Without anything to mend.

And it's just the same, in life's great game,  
With its joys and with its pains,  
When you start downhill and its slippery, Bill,  
Boy, put on the chains.

You might take the first drop, but then it's time to stop;  
If you don't, who gains?  
It might sound like kidding, but, Bill, you're skidding.  
Boy, put on the chains.

\*Foss-Hughes Co., Philadelphia.

ready to show you. Also the Ford One Ton Truck, and every up-to-date farmer needs them both. When he owns them he will value them the same as he does his Ford Car.

Now in conclusion, remember that I sell no higher than any other firm, and every cent of profit is going right back into the business for equipment, more room and better service. So after all, you are interested in my business from a business standpoint. If you know of a friend or neighbor who is interested in Car, Tractor or Truck, will you kindly give me his name and address and I will greatly appreciate it. Thanking you for past favors and for any you may extend to me either by patronage or your influence,

I am, yours for the best service possible,

JESS D. HEYBACH, Ford Dealer.

## Progress Based on Service

Editor Motor World: Under separate cover we have mailed you a copy of our 1919 Automotive Equipment Catalogue, together with confidential Trade Price List applying to same.

Special interest attaches to this issue as it commemorates our jubilee. In 1869, fifty years ago, the late John Millen

started in business developing through hardware, sporting goods, bicycles, street railway supplies and finally to automotive equipment.

The theme of the two-color cover is Progress Based on Service, and typifies the modern change to tractor, truck, automobile and aeroplane.

Over 300 pages, over 3000 items, preserve a lead as the most complete catalogue issued in Canada, with the confidence of the trade in our cars and experience in listing lines of proved saleability and value.—John Millen & Son, Limited, Montreal.

## Will Increase Their Profits

Editor Motor World: I want to compliment you on your April 16 issue of Motor World. If your dealer subscribers will give this issue the consideration it deserves it is the writer's opinion that they will find many things of interest to them which will increase their profits.—Service Motor Truck Co., Wabash, Ind.

## A Regular Gold Mine

Editor Motor World: I ordered your "1500 short-cuts" in book form a short time ago. I think it is a regular gold mine for a repairman. I consider Motor World the most valuable trade paper I have ever read.—Harry Ypma, Los Angeles, Cal.

## Makes Facts Interesting

Editor Motor World: I believe that Motor World is the best trade medium in the industry because your editorial staff makes dry facts and figures over into interesting and educational reading matter.—R. A. Loftus, Cleveland, Ohio.

## Massachusetts Highway Commission Merged

BOSTON, May 24—The days of the Massachusetts Highway Commission, as it is now known, are numbered. The Legislature has before it a bill which calls for the reorganization of 100 boards and commissions into 20 departments, and so the Highway Commission is thrown into the discard with the rest. To be more truthful, it will be merged with Waterways and Public Lands and the two will be known as the Department of Public Works. There is to be one man at the head of it, with deputies handling the departments.

## Felony to Steal Cars in Pennsylvania

HARRISBURG, PA., May 24—Governor Sproul has approved the Hollingsworth House bill making it a felony hereafter for anyone to steal a motor vehicle in the State of Pennsylvania. The measure increases the penalty for such thefts, and for being an accessory thereto, or receiving or buying a car known to have been stolen, to a maximum of \$5,000 and 10 years in prison.

## Ideas Which Must Be of Benefit

Editor Motor World: Congratulations on the big Summer Merchandising Number of Motor World! It not alone furnishes a representative list of advertisers in the industry, but scores of new ideas for the dealers, which if followed must be of benefit to those who manufacture as well as those who sell.

The number was a highly creditable presentation of the present status of the automobile industry, its needs and its possibilities.—Alfred Reeves, General Manager, National Automobile Chamber of Commerce.



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### Lien Law in Kansas

Editor Motor World: Please advise regarding the lien law in Kansas. We would like to know where we stand in regard to holding or picking up a car for repair bills. We can get the answer through Motor World.—Deerfield Motor Co., Deerfield, Kansas.

Answer—As Kansas hasn't any real garageman's or automobile mechanics' lien law, you cannot take back a car after it has once gone out of your possession, even though there may be a bill standing against the owner for repairs.

Under the Kansas law there is a lien in favor of any blacksmith, horseshoer, wagonmaker, garageman, or any other person upon any goods, chattels, or other vehicles or automobiles and any farm implements of whatsoever kinds, which shall have come into the possession of such blacksmith, horseshoer, wagonmaker, garageman, or any other person for the purpose of having work on said property, or repairs, or improvements in anywise pertaining thereto.

The lien shall amount to the full amount and reasonable value of the services performed, and shall extend to and include the reasonable value of all material used in the performance of such services. Under this law you only have the right to hold the car for your bill while it is in your possession.

### Lend Money Carefully

That one who loans a dealer money with which to buy cars loses his mortgage lien if he is aware that they are bought for resale, is a decision in a recent South Carolina case.

Suit was brought by the holder of a mortgage who had loaned money to a motor car dealer to recover possession of an automobile which was covered by the mortgage.

It seems that the dealer had bought these cars and that when they arrived he had borrowed money to pay the drafts against them and gave a mortgage on them for his loan. The dealer then sold a car to a man named Crim, who in turn resold it to a man named Rogers. The lender was to recover possession of the car sold to Rogers under his mortgage.

The court decided that he was not entitled to possession of the car, as having taken the mortgage as security he, in the absence of a stipulation to the contrary, impliedly consented to the sale of all the cars covered by the mortgage and therefore could not claim a lien against

those buyers whether they knew of the mortgage or not.—Cudd vs. Rogers, 98 South Eastern. South Carolina. 786.

### Who Is Responsible?

Mere proof of the ownership of an automobile and that it was used at the time of an accident under the owner's permission, while prima facie evidence of responsibility for accidents, does not bind the owner for negligence if he could show that the person driving was in fact not his agent, is the holding in a recent California case.

A dealer's employee, while driving a car owned by the dealer, was negligent and caused an accident for which suit was brought. The court decided that whether or not the dealer was liable depended upon whether there was a relation of principal and agent between the dealer and the chauffeur and that such a relation did not result merely from the fact that it appeared that the employee had borrowed the car from his employer.

The court further decided that the dealer in a case like the one in question must be allowed to show, if it could, that the car was being used by the borrower for his own business and not as its agent.—Brown against Chevrolet Motor Co. of California. 179 Pacific, California, 697.

### Ohio and Mississippi Tax Laws

Editor Motor World: Will you please advise us if in Ohio and Mississippi it has ever been decided that it is unconstitutional to levy a personal tax on automobiles in addition to the state license tax? What is the law of the matter?—L. L., Columbus, Ohio.

Answer—It is well understood now that a license tax is not really a tax within the meaning of the organic law relating to taxation. It has therefore been decided in numerous cases in the various states that an *ad valorem* tax upon the car itself and also a license fee upon the use of the car can be levied without being double taxation.

### How to Collect a Bill

Editor Motor World: What is our best course to take to collect a bill for repairs amounting to about \$200 on a car which the owner refuses to take and pay for, saying we can keep the car and dispose of it to satisfy our claim? We have had the car over six months, thinking he might change his mind and want the car.—A. W. Chatfield, presi-

dent Chatfield's, 312 West Fifty-second Street, New York City.

Answer—Of course the simplest thing to do would be to sell the car as your customer tells you to, but in that case you might get into difficulty if he afterward denied giving you authority to sell for his indebtedness.

Under the New York law you have a lien for the amount of your repair bill. It would not be so simple to sell the property under your right of lien as to sell it the other way, but it would be much safer, as your customer will then have no comeback. Any attorney admitted to practice in the courts of this State can foreclose your lien for you. I would not advise you to attempt doing it without an attorney because it is a technical proceeding.

### The Dealer Is Liable

The Supreme Court of Mississippi recently decided that when a motor truck is sold through a printed form of contract containing the manufacturer's name which has been scratched out to permit the dealer's name to be inserted the buyer must recover the money he paid from the dealer, as he cannot get it back from the manufacturer.

An automobile truck dealer had purchased a truck from the manufacturer and afterward sold it and received \$250 as an initial cash payment.

The written agreement between the dealer and his customer was a printed order blank containing the manufacturer's name, address and the usual blanks for the specifications and style of the truck. It appeared that the name of the manufacturer had been stricken out and the name of the dealer had been put in its place. The court decided that if the truck was unsatisfactory the buyer must look to the dealer for the return of his money, as he had no contract with the manufacturer.

A replevin action between a repairman and a car owner cannot be reviewed by a court of equity in Illinois, according to the courts of that State. A garageman who had repaired a car let it go out of his possession and afterward brought an action of replevin and recovered possession of the car under his right to a lien pursuant to the Illinois laws of 1907, page 567. The car owner brought an equity suit to have the replevin action reviewed, but relief was denied him on the ground that he should have reposed the replevin action.



# The RETAIL NEWS

## EAST

**Armory Garage Co.** has succeeded to the business of the **Fulton Garage** and will conduct a general garage business at 27-29 Sherman street, Albany.

**Oxford Buggy Co.**, Philadelphia, will erect a large building and in addition to selling automobiles will conduct a garage and general repairshop.

## SOUTHWEST

**G. L. Ramsey**, **P. S. Cauvel** and **George W. Ramsey** have purchased **Coerbers Garage**, **Deerfield, Kan.**, and changed the name to **Deerfield Motor Co.**

**G. H. Bilhelmer & Son**, **Little Rock, Ark.**, garage and repair men for the past five years, would like to be put on mailing lists for accessories, tires, tubes, etc.

## NORTHWEST

**Motor Sales & Finance Corp.**, capital \$500,000, fully paid in, has recently been organized at **Sioux Falls, S. D.**, and has taken over the general distribution of the **Kalamazoo** truck throughout **South Dakota**, **North Dakota**, **Minnesota**, **Nebraska** and **Western Iowa**. General offices have been established at 321 South Phillips Avenue, **Sioux Falls**. The officers and directors are: **C. J. Johnson**, president; **W. I. Thompson**, vice-president; **Eugene Reiley**, treasurer; **M. C. Smith**, secretary. The above four and **H. L. Harris** constitute the board of directors. **O. A. Kruse** is sales manager.

**Nelson Brothers**, **Kanawha, Iowa**, have sold their garage to **Oscar Thompson** and **Ray Watkins**.

**Charles Bryant**, **Centerville, Iowa**, has bought an interest in the **Ford** garage at **Seymour, Iowa**.

**S. H. Tyler**, **Fountain Green, Ill.**, has purchased the garage at **Birmingham, Iowa**, from **Anderson Bros.**

**Harry E. Sanders**, of **Grinnell, Iowa**, has sold his motor car business to **H. D. Wilson** of **Clarinda**. **Wilson** will add the **Studebaker** and **Chevrolet** to his line.

**A. R. Hoenk**, **Ft. Dodge, Iowa**, president of the **Swaney Motor Car Co.**, and **Edward Rehder** of the **Rehder Cadillac Co.** have organized a new company to handle the **Cadillac** agency at **Mason City, Iowa**, and **Mr. Hoenk** will move to **Mason City** to take active charge.

**Rude Auto Co.**, **Perry, Iowa**, which operates branches in a number of **Iowa** towns, has announced plans for the immediate construction of a modern three-story plant at **Cedar Rapids**. The new building is to be located at **Church St.** and **First Ave.** and will be 80 x 180.

**Dakota Motor Co.**, **Pierre, S. D.**, has been formed with \$30,000 capital. Incorporators are **A. Bruner**, **E. C. Smith**, **C. B. McCallag** and **A. W. Ewert**.

**Falde & Daniels**, **Canton, S. D.**, have bought the **Big Soo** service station, and will handle motor oils, greases, **Goodrich** tubes and casings.

**E. E. Theurer Motor Co.**, **Wessington Springs, S. D.**, has succeeded the **Theurer Gall Motor Co.**, **Mr. Theurer** buying **Charles Gall** out.

**A. E. Mills**, **Stewartville, Minn.**, bought the interest of **E. G. Ballard** in the garage of **Vallard & Mills**.

**Saglessor & McMillan Auto Co.**, **Plainview, Minn.**, has sold its garage and repair shop to **George Graner** and **Jess Heron** of **Wabasha, Minn.**

**J. Arthur Matthews & Co.**, **Ortonville, Minn.**, has been formed by **Mr. Matthews** and **H. L. McDowell** of **Olivia, Minn.** The firm has begun work on a garage of brick and concrete.

**Warren Overland Co.**, **Warren, Minn.**, has been formed and the business of the company will be transacted in the **Warren garage**.

**Erick Arndt** and **L. D. Ward**, **Zumbrota, Minn.**, have taken over and will operate what is known as the **Empress garage**.

**C. W. Turnbull**, **Albert Lea, Minn.**, has sold his garage business to his sons, **Clarence Babcock** and **Bud Babcock**.

**Lomen Auto Co.**, **Albert Lea**, has been sold to **George H. Haskson** of **Mason City, Iowa**.

**M. Irgins**, **Kerkhoven, Minn.**, has sold his garage and business to **E. O. Nelson** of **Willmar, Minn.**

**C. F. Roth**, **Henderson, Minn.**, has bought the **Hentor garage** and will continue the business.

**T. H. Bunn**, **Pine Island, Minn.**, has bought the **Pine Island garage** from **W. H. Finn** and will operate it.

**Rothsay Auto Co.**, **Rothsay, Minn.**, has sold its garage and 25 ft. of land in the rear for an extension to **Oscar Mobraaten** and **E. Johnson**, both of **Fergus Falls, Minn.**

**Motor Inn**, **Bemidji, Minn.**, has succeeded the **Letford garage**. **F. M. Goughnor** and **C. L. Savage** are the new owners.

**Peter Revering**, **Parkers Prairie, Minn.**, has bought the interest of **George J. Kraemer** in the **Urbank garage**.

**Auto Sales Co.**, **Brainerd, Minn.**, incorporated at \$25,000. **Roy Sherlund** is president. Automobile and garage men who are incorporators are **Fosko Bros.**, **W. E. Lively**, **John T. Ingrund**, **Motor Inn**, and **C. W. Hoffman**.

**George McCoy**, **Rapid City, S. D.**, has gone into business with his brother, **J. L. McCoy**, as the **McCoy Motor Co.** **McCoy** will be manager of the **Briscoe** agency established by **Capt. D. Jones** of **Sioux Falls**.

**Western Automotive Co.**, **Mitchell, S. D.**, incorporated by **C. L. Voss** as secretary and manager, with \$100,000 capital.

**Redman-Frasch Auto Co.**, **Menno, S. D.**, has been incorporated at \$50,000 by **Emanuel** and **Jacob Redman** and **John Frasnch**.

**Lotta Miles Tire Co.**, **Sioux Falls, S. D.**, has been formed with \$25,000 capital by **W. K. VanBrunt**, **K. J. Campbell** and **V. V. B. Campbell**.

**Kidder Garage**, **Kidder, S. D.**, has been incorporated. The capital is \$25,000 and the incorporators are **H. Seibel**, **Edward Britzius** and **L. D. Ehlers**.

**F. W. Elwell**, **Winner, S. D.**, has bought a half interest in the **Liberty garage** from **Gaol Dakin** and the name will be **Elwell & Hurlbert**.

**Ovenauer & Golz**, **Eureka, S. D.**, automobiles and garage, has changed again with the withdrawal of **J. F. Ovenauer** and **Christian Golz**, **Ludwig Naasz** of **Arlas** taking their place. His partner is **Adam F. Ovenauer**, who has a half interest.

**Ole Johnson**, **Hayti, S. D.**, has sold his ga-

rage to **C. Ruger** and **R. E. Schulz**, who are residents of **Bruce, S. D.**

**John Goodwin** and **Warner Peter**, **Oacoma, S. D.**, have bought the garage of **A. J. Boal** and will operate it.

**Hanten & Weaver**, **Watertown, S. D.**, has been formed, **Frank L. Weaver** buying an interest in the **Hanten garage**.

## PACIFIC COAST

**Wymore** and **Hengen** have purchased the **Porterville Tire & Vulcanizing plant** at **Porterville, Cal.**

**Central Garage**, **Porterville, Cal.**, will handle the **Fordson** tractor.

**B. B. Kreider** and **Son** have purchased the **Porterville Battery Works** and **Willard** service station at **Porterville, Cal.**

**Weide Brothers** have opened **Oldsmobile** and **Oakland** salesrooms at **Porterville, Cal.**

**A. H. Karpes Implement House** has been appointed dealer for **I. H. C.** and **Rumely** tractors at **Bakersfield, Cal.**

**L. D. Prough**, **Chevrolet** dealer at **Bakersfield**, has opened a branch at **Taft, Cal.**

**Auto Electric & Battery Co.**, operating a **Willard** service station at **Bakersfield**, has been reorganized and **W. H. Elwell** is now acting as manager.

**Kern County Motor Co.** has opened **Oakland** and **Nash** salesrooms at 1711 19th Street, **Bakersfield, Cal.**

**J. O. Main** has established the **Economy Tire Shop** at 611 19th Street, **Bakersfield, Cal.**, specializing on **Gates Half Sole** Tires.

**T. H. Buckmaster & Son** of **Lindsay, Cal.**, have entered the automotive field with the **International Harvester Co.** tractor and truck and have also stocked a line of accessories.

**Universal Auto Co.**, **Lindsay, Cal.**, has been appointed official **Fordson** tractor service station.

**Cate & Woollome** have purchased the former **Lindsay garage** at **Lindsay, Cal.**, and renamed it **Cate & Woollome's Garage**. They have secured the agencies for **Oakland** and **Overland** cars.

**Central California Electric Co.**, which operates service stations for **Exide** batteries, **Bosch** magnetos, **Eisemann** magnetos and **Westinghouse**, **Autolite**, **North East** and **Bi-jury** systems, at **Lindsay** and **Exeter, Cal.**, has opened a branch at **Visalia**.

**Hayden-Rodgers Co.** succeeds **Hayden Auto Accessories Co.** at **Porterville, Cal.**, and has moved to spacious quarters at 516 Main Street, in which besides a complete line of accessories a sales department for **Velle** cars and trucks has been added.

**Charles Aylmore** has become sole owner of the repairshop at 2317 **Chester Avenue**, **Bakersfield, Cal.**

**Hand & Metzner** have retired from the grocery business in **Bakersfield, Cal.**, and opened salesrooms for the **Stephens** car at 1011 **Baker Street**, **East Bakersfield**.

**Randall H. Sylvester** and **Charles M. McMillan** have opened the **McMillan Tire & Rubber Co.** at 2019 **Chester Avenue**, **Bakersfield, Cal.**

**Waltham Investment Co.**, **Portland**, will construct a one-story garage at **Ninth** and **Everett**, to be 50 x 94, costing about \$10,000.

**L. P. Peters**, **Portland**, will construct a one-story concrete garage, 100 x 100.

**Kelly Tire Sales Co.**, **Portland**, will occupy a new one-story brick building, 50 x 100, to be built at 10th and **Burnside Streets**, at a cost of \$10,000.

**Vick Bros.**, **Salem**, wholesale distributors for the **Fordson** tractor, will leave **Salem**, and establish an exclusive wholesale agency in **Portland**.



Frank Zikmund, Seattle, will construct a one-story masonry garage, 114 x 62½, at 1654 20th Avenue, near East Olive St.

Wicks Tire & Rubber Products Co., Seattle, has practically completed construction of its tire manufacturing plant, located between Seattle and Kent, and plans within 30 days to begin the manufacture of tires. The concern is headed by R. S. Wicks, President, and P. T. Stangland, Vice-President. Grant Lambright of Akron, is superintendent. The company will build a fabric tire in all the popular sizes. The plant buildings cover an area of 100 x 295 ft., and will employ about 160 workers.

Distributors Corp., Portland, exclusive Pacific Coast distributor for Hassler shock absorbers, has recently opened a branch at 104 Twelfth Street, headed by J. H. McKinley.

Regner & Fields, Portland and Chevrolet distributors, have recently opened a branch at Gresham, in charge of the Peninsula Motor Sales Co., which has been incorporated by F. S. Belcher and R. W. Buck.

Louis Roesch, Seattle, distributor of Atterbury and Stewart trucks, will erect modern garage, 120 x 108 ft., at Third and Bell Streets, Seattle.

Diamond Truck Co., Portland, will build one-story concrete sales building, 50 x 100, on Ninth and Everett Streets.

Pohle & Son, Salem, Ore., will build concrete garage and salesroom, one-story, '55 x 75.

Cook & Gill, Portland, will move to large new sales building to be built at Eleventh and Burnside. Structure will be 72 x 112, two stories, of reinforced concrete.

W. J. Orton, Puyallup, Wash., will build concrete garage, costing \$10,000.

W. H. Wilde, Vancouver, Wash., has purchased the Vancouver branch of J. H. Graham, distributor for the Denby truck, Case cars and tractor, and the Chevrolets. The new owner will take over all these agencies.

Mitchell Motor & Service Co., Seattle, will move to a new structure to be built at 417 Pine Street. Building will be three-story, 120 x 92, of brick and concrete.

A. H. Meagley, Portland, will build a one-story brick garage and salesroom at Second and Main Streets, to be 100 x 100.

C. Spinkle & Co., Spokane, will install a modern machine shop in a new fireproof concrete and brick, one-story building to be erected at 110 North Avenue. Building will be 50 x 70, with concrete floor.

#### MIDDLE WEST

Columbia Motor Car Co., Milwaukee, Wis., has been organized with I. L. Van Lare as general manager to act as distributor of the Columbia in Wisconsin and Northern Michigan. A sales, display and service station will be established in the downtown section of Milwaukee as soon as possible.

McIntyre Motor Products Co., Chicago, builders of seven-passenger bodies for Fords, have taken larger quarters at 5417 S. State St.

Brandt-Froelich Co., Appleton, Wis., has been incorporated with an authorized capital stock of \$35,000 to take over and continue the automotive business and garage of the Brad-Ford Co., Ford and Fordson dealer, Appleton. August Brandt is chief owner of the Brandt Auto & Implement Co., Black Creek, Wis., with a number of branches, and George Froelich is a former resident of Milwaukee who will be the active manager of the garage and service station.

Elmer Olson and Elmer Ramstead, Washburn, Wis., have formed a partnership as

Olson & Ramstead to deal in the Studebaker.

J. F. Meeker & Son, Delavan, Ill., have completed a new garage with a frontage of 150 ft. and of the same depth. This firm opened a small machine shop 8 years ago and commenced to repair cars upon a small scale. The repairshop will be in the basement. Each room and department is connected by telephone and the plant has other advantages, usually found only in the metropolitan garages of modern construction.

Emil J. Hoefer, Freeport, Ill., has opened a motor car accessory shop at 116 Exchange Street, following his recent return from army duty in France.

Wood & Oakwood, Danville, Ill., have purchased the Atwood garage, and will make a number of improvements, several additions to be made to the buildings and some new departments to be inaugurated.

#### SOUTH

The J. F. Lifsey-Smith Corp., Atlanta, Ga., has taken the representation of the Pierce-Arrow. This is the first time the Pierce-Arrow appeared on Atlanta's motor row.

The Victory Automotive Co., Montgomery, Ala., has taken the agency for the Moon. The company will locate at 121 Commerce St., and they will cover Central Alabama.

The Rainbow Automobile Co., Montgomery, Ala., is a new corporation which will handle the Briscoe. Mr. Owens is manager.

#### NEW GARAGES

H. G. Decker.....Whitefish, Mont.  
H. B. Hendrickson.....Kalispell, Mont.  
Bert Hofer, Jr.....Harrison, Mont.  
Deak & Allen.....Hamilton, Mont.  
Arthur Marks.....Neihart, Mont.  
Power-Wilson Co.....Valler, Mont.  
Walter Hage.....Reserve, Mont.  
W. M. Cady.....Great Falls, Mont.  
Huffer Garage & Motor Co. Livingston, Mont.  
Carl Johnson.....Square Butte, Mont.  
Paul Guilmont (accessories).....Superior, Mont.  
Heges & Moore.....Toston, Mont.  
J. Frank Young.....Lodge Grass, Mont.  
Laurel Garage (addition).....Laurel, Mont.  
Sunset Garage (addition)

Billings, Mont. (Walter Welch)  
Joseph Breniff.....Broadview, Mont.  
Ralph Conway (repairshop)

Harlowton, Mont.  
Walter Lindsay.....Twodot, Mont.  
K. W. Hay.....Great Falls, Mont.  
John Brown.....Three Forks, Mont.  
Chateau Vulcanizing Co.....Great Falls, Mont.  
William Caldwell.....Helena, Mont.  
James Stewart.....Browning, Mont.  
J. E. Skyles.....Whitefish, Mont.  
O. P. Songer (accessories).....Chinook, Mont.  
A. M. & C. Holland.....Fargo, N. D.  
Park River Auto Co.....Park River, N. D.  
Edward Olson.....Edmore, N. D.  
T. G. C. Kennelly.....Martin, N. D.  
Ablen & Pomeroy.....Cleveland, N. D.  
Reuben Marshall (repairshop)

Devils Lake, N. D.  
L. C. Steuwig.....Oriska, N. D.  
A. Sauer (repairshop).....Fessenden, N. D.  
Anton Kreitinger.....Golva, N. D.  
John Goodman (auto paintshop)

Edinburg, N. D.  
Meggers Bros. (repairshop).....Rhame, N. D.  
Henry Lehman.....Sentinel Butte, N. D.  
Edw. Wolf.....Wishek, N. D.  
James Gorman.....Oriska, N. D.  
Stephen Stenson (salesroom) Hillsboro, N. D.  
Adolph Peterson (repairshop)

Minnewaukan, N. D.  
Robert Lent.....Minnewaukan, N. D.  
M. Norman & Sons.....Grand Forks, N. D.  
Curtiss Sampson.....Bowman, N. D.  
R. Mahoney (repairshop).....Bisbee, N. D.  
Storms Bros.....Oakes, N. D.

Nels Ohlsson.....McVile, N. D.  
W. Sittanuer.....Sykeston, N. D.  
Spelser Motor Co.....Fessenden, N. D.  
Elgin Motor Sales Co. (sales)

Grand Forks, N. D.  
John Wanner.....Dickinson, N. D.  
Jul. Firkingstad (vulcanizer) Hettinger, N. D.  
A. H. & M. A. Stuttm.....Turtle Lake, N. D.  
Independent Garage Co.....Bismarck, N. D.  
H. J. McGown & Sons.....Ayr, N. D.  
Kiefer Auto Co. (addition).....Fargo, N. D.  
Minnewaukan Auto Co., Minnewaukan, N. D.  
Wuttke & Lee (repairshop), Kemare, N. D.  
Western Auto Co.....Mandan, N. D.  
G. F. Pelke (vulcanizer).....Center, N. D.  
Rudolph Gollnick.....Great Bend, N. D.  
August Parker.....Minnewaukan, N. D.  
Dr. W. E. Heller.....Fargo, N. D.  
Martin Ihlen.....Hamberg, N. D.  
S. Harrison.....Knox, N. D.  
G. O. Walters (wholesale accessories)

Fargo, N. D.  
Amidon Garage.....Amidon, N. D.  
Olson & Anderson (autohospital)

Brantford, N. D.  
Park River Motor Co.....Parker, N. D.  
Paul Mattheis.....Ellendale, N. D.  
Edw. LeGallais.....Gascogne, N. D.  
Northwestern Garage (addition)

Linton, N. D.  
James Lyster.....Halliday, N. D.  
Mielke & Bomstad.....Coulee, N. D.  
D. J. Price.....Kildeer, N. D.  
Bartles Oil Co. (station).....Pembina, N. D.  
Red River Auto Co.....Fargo, N. D.  
Martin & Phinney.....Stanley, N. D.  
K. R. Juvet.....Mayville, N. D.  
Rollo O. Long.....Grand Forks, N. D.  
T. L. Berry.....Fargo, N. D.  
William Row.....Langdon, N. D.  
A. Lanterman.....Mandan, N. D.  
B. A. Vassau.....Forest River, N. D.  
C. E. Jaberg.....Sanborn, N. D.  
H. T. Boyle.....Sheldon, N. D.  
Hodges & Murphy.....Parshall, N. D.  
Peterson & Berke.....Ambrose, N. D.  
Hegge & Bell.....Elgin, N. D.  
Austin Moen.....Fordville, N. D.  
J. & D. McDonald.....Milton, N. D.  
Edw. Boren.....McIntosh, N. D.  
State Auto Co.....Devils Lake, N. D.  
Don Wiley (tireshop).....Grafton, N. D.  
Josund & Brecke.....Fessenden, N. D.  
Anton Klemmons.....Kenmare, N. D.  
Sinclair Refining Co. (station).....Fargo, N. D.  
Western Auto Club.....Fargo, N. D.  
Dr. G. Hoey.....Tower, N. D.  
Albert Hanson.....Luverne, N. D.  
Master Oil Co. (station).....Fargo, N. D.  
F. G. Kruger.....Fingal, N. D.  
Hughes & Wheeler (repairshop)

New Rockford, N. D.  
G. F. Pelke (tireshop).....Center, N. D.  
Moore & Rebne (addition).....Columbus, N. D.  
Herbert Wolfe (City Garage)

Devils Lake, N. D.  
B. Everetts.....Minot, N. D.  
Henry Boule (tireshop).....McHenry, N. D.  
Baughman Bros. (repairshop).....Pierre, S. D.  
C. G. Munce (filling station), Humboldt, S. D.  
Clarence Jost.....Presho, S. D.  
George Pulver.....Canton, S. D.  
Phillip Schaefer.....Parker, S. D.  
Schiefelbein & Rickabaugh, Clear Lake, S. D.  
K. J. McDonald (vulcanizer).....Lemmon, S. D.  
Andrew Glessenger.....Milbank, S. D.  
L. J. Case (repairshop).....Milbank, S. D.  
F. E. Wurfel.....Huron, S. D.  
Arthur Stewart.....Elk Point, S. D.  
J. G. Funstan (repairshop).....Mitchell, S. D.  
F. V. Schneider (battery supply)

Scotland, S. D.  
Ford Garage (Philadelphia service)  
Desmet, S. D.  
Riddle & Miller.....White Butte, S. D.  
DuBois-Barton Tire Co. (tireshop)  
Watertown, S. D.  
Anton Eickholt (vulcanizer).....Kimball, S. D.  
Mayor Halbower.....Miller, S. D.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2143—ADJUSTING WRENCH FOR FORD HORN

An adjusting wrench for the new type Ford horn is made by forming two loops in a Ford carbureter dash-control rod and bending the forked ends together to fit the 5/16 in. hexagon nut on the diaphragm. A screwdriver is made to fit in this special wrench. It is made from key stock or cold-rolled steel turned to a round section where the loops encircle it so as to let the screwdriver turn freely. The nut is held with the wrench while the screw is turned with the screwdriver.—D. L. Jones, Albion Garage, Albion, N. Y.

## No. 2144—CYLINDER-HEAD LIFTER

A cylinder head is easily lifted by using two handles made from 1/2-in. iron pipe and two tees. The handle pieces which are threaded on one end are 7 in. long and the nipple that screws into the spark-plug hole or an extra long piece of pipe with additional 3/8-in. threads will make the lifter adaptable to all cars.—C. E. Oppliger, Gibson-Overland Co., Vincennes, Ind.

## No. 2145—WRENCH FOR HOLLEY CARBURETER JET

A special wrench for removing and replacing the jets in Holley carbureters is made from a Ford piston pin with two notches cut in one end to fit the two lugs on the jet. The other end of the pin is ground square on an emery wheel to permit of the use of a wrench in turning it.—E. C. Stillger, Ollson Bros. Garage, Ithaca, Neb.

## No. 2146—WRENCH FOR ENTERING FORD DRIVESHAFT

A wrench for turning the Ford driveshaft in such a position that it will enter the square hole in the transmission is made of two pieces of heavy sheet iron, each a half circle a little larger than the diameter of the universal joint housing with a square hole cut in the center the size of the driveshaft. These pieces are hinged together at one corner and two Ford valves are slit and riveted to the pieces to act as handles. In action, the wrench grasps the driveshaft, the rear assembly is pushed up close to the transmission and the wrench turned till the driveshaft enters the transmission. The wrench is then slipped out and the housing bolted up.—F. B. Potter, Potter's Garage, Potter Brook, Pa.

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

## No. 2147—ENLARGING A BUSHING WITHOUT A REAMER

In case a reamer the desired size is not available, the hole in a bushing may be enlarged by cutting down a stick to fit it, putting some grinding compound in and then rolling the bushing forward and backward on the bench, bearing down on the stick and keeping the stick from turning. The resulting hole will be almost as true as if done with a reamer providing care is used in grinding out both ends evenly.—George W. Sjoboem, Jewell Car Exchange, Muskegon, Mich.

## No. 2148—MINIATURE CLAMP

A miniature C-clamp is made by cutting out one side of a large square nut as shown in the illustration, leaving a slight boss at the bottom and then drilling and tapping a hole directly over this for the clamping screw which is made from a cap screw. The nut is case hardened afterwards to make it stronger and harder.—P. Steiner, United States Navy.

## No. 2149—TAKING THE "STATIC" OUT OF A BELT

The static electricity can be taken from shop belts by fastening a piece of 1/8-in. sheet copper with teeth toward the belt in such a position that the teeth are just clear of the belt. A No. 14 copper ground wire connects the place with the ground and this device carries off the static as fast as it is generated by the belt.—C. C. Spreen, Detroit.

## No. 2150—ELECTRIC BULB REPLACER

A device for removing and replacing overhead electric lights is made by equipping a broom handle or other stick with four pieces of stiff wire "fingers." These wires are fastened to the end of the stick and then bent to such a shape that they will grasp the bulb firmly and turn it in or out. The wire has enough spring to permit its being slipped in and off bulbs without damaging them.—Lawrence Sly, Service Repair Shop, Carbon Hill, Ala.

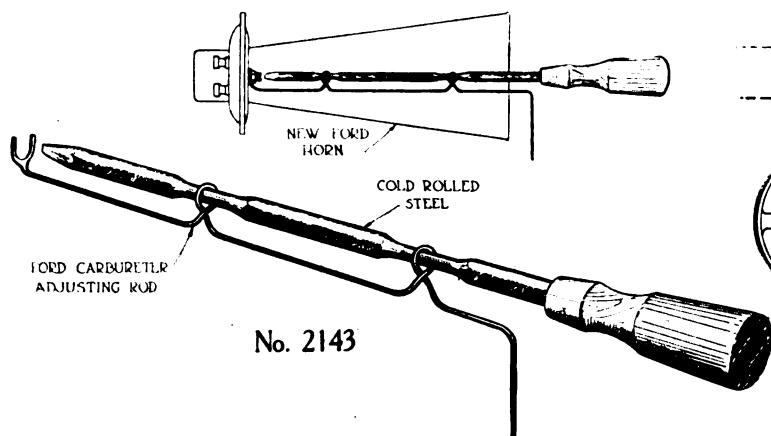
## No. 2151—CHARGING LARGE AND SMALL BATTERIES AT THE SAME TIME

Motorcycle batteries are charged at a low rate at the same time as automobile batteries and from the same circuit by connecting them in series—parallel in such a way that a proper proportion of current goes through each set. This is accomplished by using an ammeter on each series set and a resistance made of iron stove-pipe wire. The smaller batteries will have to be cut in at some other point than the terminal unless the required current can be made the same in both sets.—J. L. Smith, Keystone Garage, Warren, Pa.

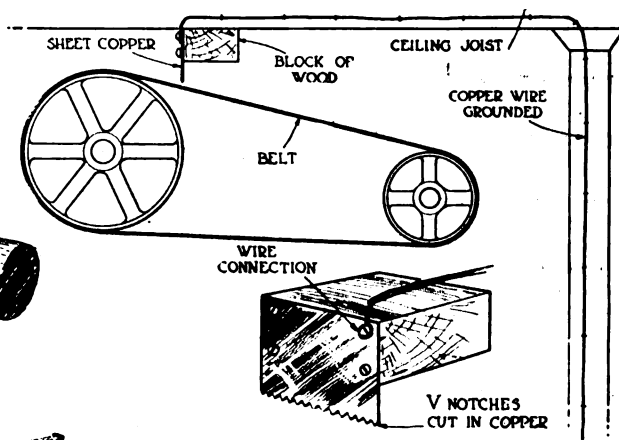
## May Revise Truck Chassis Ruling

NEW YORK, May 24—The Treasury Department ruling covering the tax on motor truck chassis is being reconsidered. Following protests from 57 dealer associations, including the National Automobile Dealers' Association, Commissioner Roper telegraphed the N. A. D. A. as follows: "Ruling regarding tax on chassis being reconsidered. When decision is rendered you will be notified." The ruling in question classifies a truck chassis as a part and as such requires a tax of 5 per cent. The contention is that a truck chassis is a sales unit and should be taxed as a complete unit at 3 per cent.

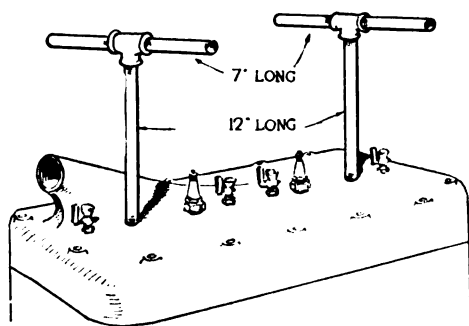




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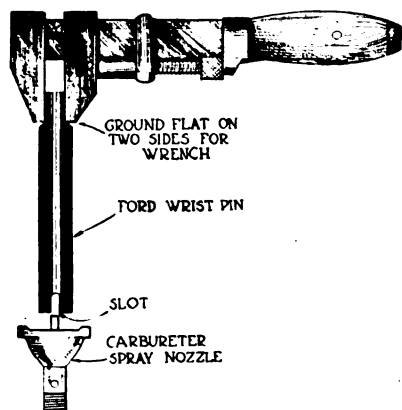
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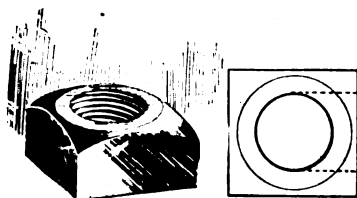
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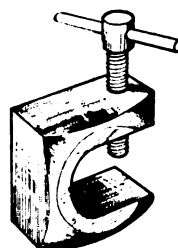
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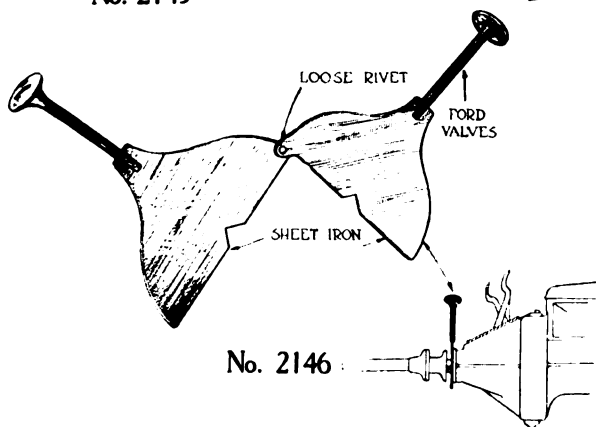
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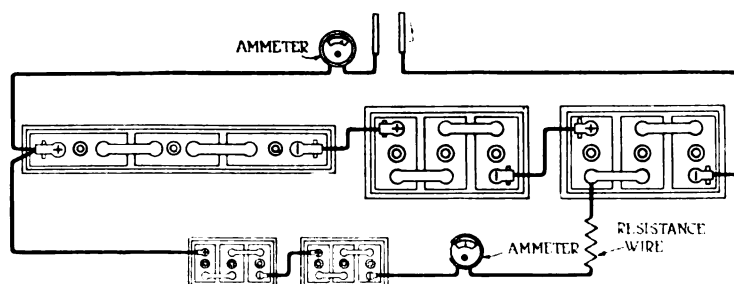
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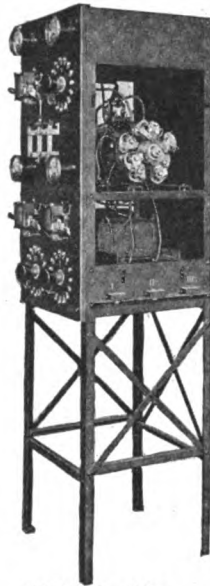
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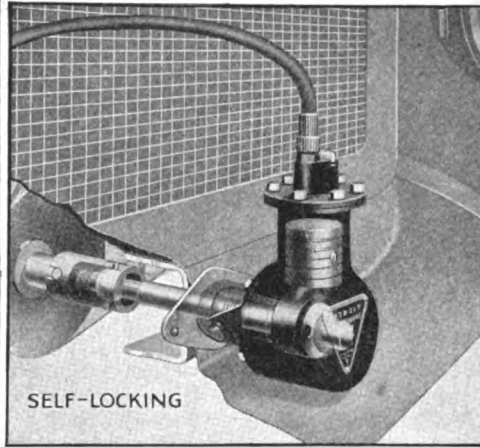
# Automotive Equipment

## STAHL MODEL SIX RECTIFIER

This is a motor-generator rectifying set which will charge any combination of batteries from 18 to 33 cells on each circuit. Because of an independent regulator for each circuit, three circuits can be charged at any rate from 4 to 12 amperes. One circuit can be charging one line of batteries at the rate of 10 amperes; another circuit can be charging at a rate of only 5 amperes; while a third circuit can be charging at an entirely different rate, all three operating at the same time. The capacity is 3221 watts direct current and the device is built for either 110 or 220 volts. Weighs 375 lb. Price \$450 complete with ammeters, voltage regulator, circuit breaker, main starting and stopping switch, and all necessary equipment.—Stahl Rectifier Co., 1401-1405 West Jackson Boulevard, Chicago.



Stahl Rectifier



Detroit Crankshaft Tire Pump

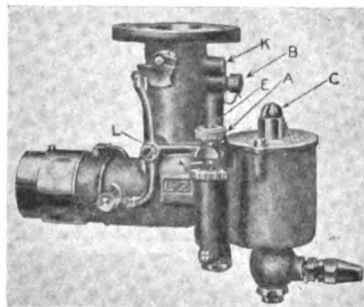
Shipping weight 150 lb. Price \$25.—Continental Auto Parts Co., Knightstown, Ind.

## DETROIT CRANKSHAFT TIRE PUMP

This is a tire pump direct driven from the front end of the engine crankshaft and is attached in exactly the same way that the handcrank is attached when needed. It is locked in position and held from turning by a clamp or screw and is connected to the end of the engine crankshaft by a ball-joint shaft or coupling which drives it. When the engine is started, each downward stroke of the piston draws in free air and each upward stroke forces it through the tube to the tire. When not in use the pump may be tucked anywhere out of the road as it is small and takes up little room. It weighs 5 lb., height 7 in., bore 2 in., stroke 1 3/16 in., capacity 1,000 cu. in. or 80 lb. in 4 minutes at 500 r.p.m. Price \$12 complete including 14 ft. of hose and quick-detachable tire connections for pocket gage.—Detroit Accessories Corp., Gratiot and Fisher avenues, Detroit.

## STROMBERG TYPE "L" CARBURETER

This model differs from the older styles in that it is a plain-tube pipe having air passages fixed in size while the gasoline is automatically and accurately measured by the air flow itself at all speeds and loads. The mixture proportion is maintained constant by the air bled nozzle construction in which a small amount of air is mixed with the gasoline before it reaches the jets. There are three adjustments, the high speed, the extremely low speed or idle and the economizer. Made in three sizes, L-1, which is 1 in., \$24; L-2 1 1/4 in., \$26.50; L-3 1 1/2 in., \$32.—Stromberg Motor Devices Co., 58-68 Twenty-fifth Street, Chicago.



Stromberg Type L Carbureter



Keystone Tire

## KEYSTONE PNEUMATIC TIRE

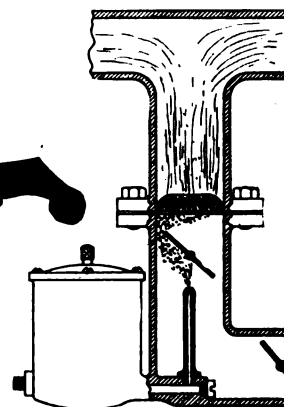
This is a fabric tire made in non-skid tread only and constructed of pure rubber and Sea Island duck fabric. Made in sizes from 30 x 3 to 37 x 5. Red and gray tubes in these sizes range from \$3.20 to \$10.35.—Keystone Tire & Rubber Co., Broadway and Sixty-second Street, New York City.

## CONTINENTAL RADIATOR STAND

This is an adjustable stand for repairing and soldering radiators. The radiator can be turned in two different directions so that any part can be brought to a level position. The frame can be locked in any position. As the stand is portable it is not necessary to take the radiator off the stand in testing for leaks. The clamps are covered on the ends with rubber so as not to injure the finish on the radiator and the supports are made of wood for the same reason.



Continental Radiator Stand



Cyclomizer Gasifier

## CYCLOMIZER GASIFIER

This is a gasket with twelve perforated fan-shaped wings which protrude into the intake manifold at the point where the carburetor joins the manifold. All of these wings have small perforations and as the raw gasoline passes by, the wings mechanically break up the drops into smaller atoms. The device is installed by removing the cap screws which connect the carburetor with the intake manifold, dropping the carburetor and inserting the device with the wings protruding into the intake manifold. Price \$4.50.—Automotive Products Co., 112 Market Street, San Francisco.



## WOULD ELIMINATE ALL RETAIL SALES TAXES

### N. A. D. A. Starts Movement Looking to Their Repeal —Unnecessary Now

NEW YORK, May 26—The National Automobile Dealers' Association has launched a movement to have removed all war taxes on automotive equipment of every character. Business Manager Harry Moock has sent a bulletin to every local association suggesting that they in turn tell their members to write or wire their legislative representatives urging the elimination of such taxes.

Here is the letter Moock is sending out:

To Officers and Directors National Automobile Dealers Association and Secretaries Local Automobile Associations:  
Gentlemen:

Now is the time to seek the repeal of the present war taxes on automobiles, trucks, accessories and parts.

The war is over. The reason for their collection has passed.

President Wilson in his message to the extraordinary session of the 66th Congress asked Congress to abolish these taxes. He said:

"Many of the minor taxes provided for in the revenue legislation of 1917 and 1918, though no doubt made necessary by the pressing demand of the war time, can hardly find sufficient justification under the easier circumstances of peace, and can now happily be got rid of. AMONG THESE, I HOPE YOU WILL AGREE, ARE THE EXCISES UPON VARIOUS MANUFACTURERS AND THE TAXES UPON RETAIL SALES. THEY ARE UNEQUAL IN THE INCIDENCE ON DIFFERENT INDUSTRIES AND DIFFERENT INDIVIDUALS. THEIR COLLECTION IS DIFFICULT AND EXPENSIVE. THOSE WHICH ARE LEVIED UPON ARTICLES SOLD AT RETAIL ARE LARGELY EVADED BY THE RE-ADJUSTMENT OF RETAIL PRICES."

President Wilson has pointed the way. He is willing for the taxes to be reduced. He has asked Congress to reduce them. Now do your part.

Write and wire your senators and representatives in Congress that this tax is unjust and unfair and should be removed. Do this as an association. Then have your members do it individually. Ask every industry, organization, trade and individual interested in the automobile to do likewise.

Show Congress where YOU stand. Unless you do you can't criticize your congressmen for where THEY stand.

Get busy. Yours for the repeal of the war tax on the motor car industry. National Automobile Dealers' Association, Harry G. Moock, Business Manager.

### Los Angeles Dealers Play (Continued from page 11)

expenses they could not see their way clear. The motor car dealers got permission from the city authorities to do things their own way then. An illuminated motor parade was put on with prizes for the best decorated cars. More than

\$1,000 was spent for this event out of the association's funds. After it was over the other business organizations sent in their congratulations upon its success.

Then followed the annual automobile show. The pessimists said the time was not ripe and it would be a losing venture. The association plunged \$30,000 on this event and it went over in big style. There was a rebate to the members on the amount of space they used. Things began to pick up. Propaganda was started to encourage more general use of automobiles. The advertising and publicity was directed toward showing the need for cars and pointing out attractive places of interest available to motorists. Then came the road race. All sorts of opposition from municipal authorities and property owners had to be overcome. The association paid \$31,576 for the expenses of this race. Owing to the difficulties of making collections around a nine-mile open course a loss of \$5,700 had to be assumed, but the association swallowed it without protest. The people had been induced to come out. The automobile fever knocked out the influenza and since then there has been a buying craze the equal of which never has been known here. All of which goes to show what can be done by automobile dealers when they unite upon a single purpose; what a power they really are in a community; how impossible it is to kill a legitimate business when those most concerned will not succumb.

### Massachusetts Would Jump Truck Fees

BOSTON, May 26—Registration fees second only to those of Maryland, showing a jump of from 150 to 1200 per cent, is what the legislative committee on Roads and Bridges has recommended to the Massachusetts legislature this year.

The fees begin at 1-ton with a \$10 fee, then slides along each half ton with \$5 raises until 3 tons is reached. Then the raises go to \$10 per half ton to 4 tons. Then it scales higher, making a 5-ton truck pay \$100, a 4-ton \$75 and with \$50 for each additional half ton. And the electrics, which are held to city traffic, are let off with half these fees; while trucks using pneumatics also get half price, while trucks and trailers using metal tires pay double the fees.

### Boston Garage to Cost \$1,250,000

BOSTON, May 26—Papers have gone to record here transferring several large pieces of property in the heart of the hotel and theater district to a syndicate that is going to erect a motor building which will have showrooms and a garage capable of housing 600 cars. It is estimated that the property when finished will represent an investment of \$1,250,000. The location is on Eliot Street next to the Plymouth Theater and right around the corner from the Hotel Touraine and the Hotel Thorndike, two of the best known hotels in the country.

The building will cover 5/8 of an acre and the floor area will be about four acres. It is to be five stories of steel and concrete with all modern improvements, including a double spiral ramp,

one within the other to allow cars to ascend and descend under their own power.

### To Make Carbureter and Lock

TOLEDO, OHIO, May 26—The E. M. Landis Co. has been incorporated to take over the plant and business of E. M. Landis at 6 North St. Clair Street and to manufacture a new kerosene carbureter and automobile lock. A. J. Hilt, formerly division superintendent in charge of machine production, and C. E. Shanteau, former machinshop foreman at the Willys-Overland factory, are the new members of the firm.

The officers of the new company are: President, E. M. Landis; vice-president, Eugene Rheinfrank; secretary, C. E. Shanteau; A. J. Hilt, treasurer. The latter two gentlemen are the new members of the firm. The company will also continue to sell and repair gas engines, trucks and farm machinery.

### Dealer Starts Truck Production

DETROIT, May 26—Leonard B. Orloff Co., automobile distributor, has started the manufacture of a 1-ton truck bearing the name Detroit. The truck will be on exhibition at the Orloff salesrooms, 811-815 Second Avenue. The truck is made up almost exclusively of units turned out in Detroit factories. The engine is a Continental model N; the frame is from the shops of the Detroit Pressed Steel Co.; the springs from the Detroit Steel Products; the front axle is Timken and the rear, Russel; the clutch and transmission from the Detroit Gear & Machine Co. factories; the radiator is made by the Long Mfg. Co.; the steering is Gemmer; the wheels are made by the Hayes plants; the fenders and hood by the Motor Metal Products.

### Milwaukee to Entertain Packard Men

MILWAUKEE, May 26—Milwaukee dealers and business men's associations are making elaborate plans for entertaining 1000 members of the sales organization of the Packard Motor Car Co., who will come here on June 17 for a day's visit on the cruise of the Great Lakes planned as an entertainment feature of the annual sales convention at Detroit. A party of officials came to Milwaukee during the week to make arrangements, which will be handled by the convention division of the Milwaukee Association of Commerce, co-operating with Ray C. Chidester, manager of the Milwaukee Packard branch, and members of the Milwaukee Automobile Dealers, Inc.

### Ty Cobb Enters Trade

DETROIT, May 26—Tyrus Cobb of this city, American premier baseball player, has closed a deal with a Toledo concern by which he will become a distributor for a Ford starting device in South Carolina, Georgia and Alabama, with headquarters in Atlanta. He has announced that he will retire from baseball at the end of the present season.



## CONFERENCE AND ROMP FOR MILWAUKEE TRADE

### Three-Day Tour and Recreation Trip to Take Place of Annual Booster Tour

MILWAUKEE, May 26—A sociability tour combining a trade conference and a "romp" is planned for the latter part of June by the Milwaukee Automobile Dealers, Inc., to take the place of the annual trade boosting tours conducted during July or August during the last eight or ten years.

President Jesse A. Smith, Hudson distributor, has appointed the following committee to make arrangements for the event: Chairman, William F. Sanger, Franklin distributor; Leslie D. Frint, Oldsmobile, and C. P. Hatter, Buick. According to tentative plans, the tour will consist of a run from Milwaukee to the place selected for the conference and return over a different route. The conference is to include a discussion of trade conditions by members of the M. A. D. with representatives of trade organizations from other cities in the state.

Chairman Sanger and the committee, with Bart J. Ruddle, assistant secretary and manager of the M. A. D., will visit a number of large inland lakes in Wisconsin in search of a hotel that will afford accommodations of 100 or more people for several days. The tour is to last three days, the first to be consumed in making the going trip; the second in the conference, and the third for the home-ward run.

The "romp" will include festivities, games and entertainments that will be a part of the trip and probably will include side trips from the resort to nearby cities each day. A camp affording golf links, baseball grounds, athletic field, swimming beach and other facilities will be selected.

Each membership in the M. A. D. will be entitled to have three members of the firm participate in the tour.

### More Capital for Tower Truck

GREENVILLE, MICH., May 26—The Tower Motor Truck Co. increased its capitalization from \$200,000 to \$500,000. New buildings are being planned as it is planned to greatly increase production on both the Tower 2 and 3½-ton models.

### Philadelphia Truck Dealers Add Cars

PHILADELPHIA, May 26—The Stability Motors Co., E. J. Berlat president, Croskey Street, above Columbia, Philadelphia, has been appointed a retail sales agent for Chevrolet cars and has made George C. Henderson, who has been connected with the Chevrolet organization for several years, manager of the passenger car department. This is the first passenger car handled by the Stability Motors Co., which also handles Atterbury trucks and Fruehauf trailers.

The Guarantee Automobile Exchange,

W. J. Robertson, president, distributor of Hall trucks, 631 North Broad Street, Philadelphia, has been appointed distributor in Philadelphia territory for the Elcar.

The Terwilliger Equipment Co., 2013 Market Street, Philadelphia, distributor for King trailers, E. M. Terwilliger, president, has closed a contract with the Moon Motor Car Co., St. Louis, to handle its line of passenger cars for the Philadelphia territory.

### Will Study Short Hauls

WASHINGTON, May 26—The Highways Transport Committee, Council of National Defense, will make an intensive study of short haul problems in Boston, New York, Philadelphia, Pittsburgh, Baltimore, Washington, Atlanta, New Orleans, St. Louis, Chicago, Detroit, Cleveland, Omaha, Denver, Dallas, San Francisco, Los Angeles, Portland and St. Paul. The survey will be as complete as possible and the committee asks the co-operation of all manufacturers and dealers so it may secure the maximum amount of data. Any information relative to the names and addresses of operators, number and capacities of trucks in use, routes and schedules and rates with copy of the tariff when it is available, is desired. Such information should be sent directly to the Highways Transport Committee, Council of National Defense, Washington, D. C.

### Pfeiffer Heads Miller Rubber

AKRON, May 26—The Miller Rubber Co. has elected these officers for the ensuing year: President, Jacob Pfeiffer; vice-president, C. T. Grant; secretary and treasurer, W. F. Pfeiffer.

## TRACTORS READY FOR BIG DENVER SHOW

### More Than 100 Machines and 750 Implements to Be Exhibited in Use

DENVER, May 26—Extensive preparations are being made for the Mountain States National Tractor Demonstration, to be held at Denver, June 9 to 12, under the joint auspices of the Denver Tractor Club, Denver Civic and Commercial Association and the civic body's Agricultural and Livestock Bureau.

A hundred or more tractors and about 750 farm implements, representing a total of nearly 150 manufacturers, are expected to take part in the event, which has been endorsed by the governors of Colorado, New Mexico, Arizona, Utah, Wyoming and Nebraska and by the Colorado State Agricultural College, Colorado State Editorial Association and scores of commercial bodies and other organizations throughout this vast territory.

County agricultural agents from all parts of Colorado have announced that they will attend the event, and special trains to bring hundreds of farmers are being planned in several counties. Interest is being promoted also in a substantial way by the United States Bureau of Markets through its official daily bulletin published by Stuart L. Sweet, field agent in marketing for Colorado.

Near the center of the 2300-acre demonstration tract a few miles east of the city limits, a town of about 100 tents will be established by exhibiting firms. These

### Here Are Three Really American



The American Bosch Magneto Corp. asked its dealers to trim their windows fully and entirely American. How well the dealers succeeded may be seen in the display of Frank H. Webster of the Kimball-Upson Co., Sacramento, and the



tents will all be numbered and listed by tractor names in an official program to be prepared for the convenience of the 100,000 visitors expected from a dozen states. Twenty thousand handsome posters are being distributed throughout the Rocky Mountain territory through the co-operation of tractor dealers, postmasters, agricultural agents and others eager to help make the exhibition such a success that it can be established as a yearly event.

Land conditions and other factors are pronounced ideal by Denver tractor dealers and also visiting manufacturers and other national authorities on demonstration requirements. An ample water supply is being provided for, roads to the exhibition field are being improved, bridges strengthened and other details arranged with speed and enthusiasm. An adjacent field has been planted to corn, to provide opportunity to demonstrate tractor-drawn cultivating machinery.

The executive committee in charge of the event consists of President Louis L. Clinton of the Denver Tractor Club (of thirty-five members), who is also president of the Avery Machinery Co.; President E. M. Ammons of the Agricultural and Livestock Bureau, formerly governor of Colorado; A. J. Simonson, director of this bureau; F. M. Ross, Rocky Mountain representative of the Oliver Chilled Plow Works, and A. E. Hildebrand, of the National Association of Tractor Manufacturers, who is general manager of the Denver event.

Official headquarters will be established in the city's largest hotel, the Brown Palace, and a total of more than 400 rooms have already been asked for by tractor and implement manufacturers. Advance headquarters have been opened



*This Bosch window was arranged by W. Stanley Veaco of George W. Roberts, Marysville, Cal.*

at 203 Symes Building, in charge of Fred P. Johnson, chairman of the publicity committee, and Ernest M. Henderson, publicity director.

#### New Chicago Hudson Dealer

CHICAGO, May 24—Interests which have controlled the Twin City Motor Car Co., Minneapolis, distributor for Hudson and Essex cars throughout Minnesota

and the Northwest, have allied themselves with several Chicago business men to form a new organization which will be known as the Hudson Motor Co. of Illinois to distribute Hudson and Essex cars in Chicago. The management of the new company will be under the active direction of J. R. Histed, who, for some years past, has been general manager of the Twin City Motor Car Co. Negotiations for a location have practically been completed. The new organization, on June 1, will formally take over the sale of Hudson and Essex cars, which previously have been handled by the Louis Geyler Co.

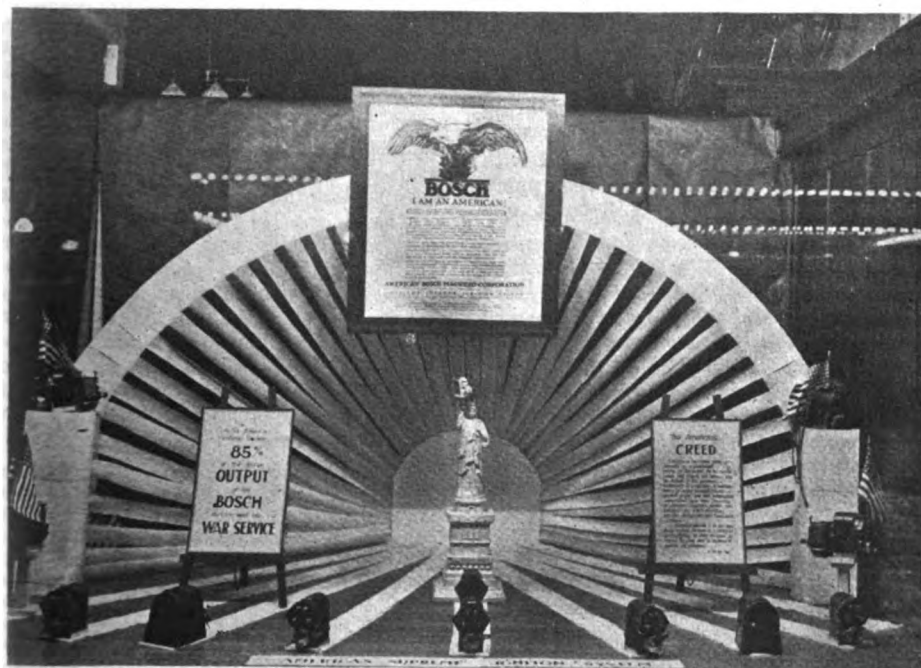
#### Four Ohio Tractor Demonstrations

COLUMBUS, OHIO, May 26—There will be four big tractor shows in Ohio this year. The first will be held in Columbus, July 28-29, the second in Piqua, Aug. 1-2, third in Fostoria, Aug. 6-7, and fourth in Akron, Aug. 12-13. The demonstrations will be in charge of Prof. H. C. Ramsower, head of agricultural engineering department of the Ohio State University.

#### Boston Dealer Adds Planes

BOSTON, May 24—Airplanes for sale on the same basis as motor cars and trucks at \$3000 each is now an accomplished fact in Boston. C. E. West, manager of the Stewart Truck Co., has leased the old camping grounds at Boxford and a gang of men is now building six hangars on the field, each one of which will be 190 ft. long, 48 ft. wide and 48 ft. high. West has in a shipment of five machines and five more are to be delivered before June 15. One of these is on exhibition in his salesrooms on Newbury Street.

### Windows—Remember Decoration Day



*Windows in a manner to bring out the fact that the Bosch company is now judged by these photographs. The one on page 36 was arranged by lower one on page 37 by J. W. Lonoar of Ballou & Wright, Portland*



# News Letters from Busy Centers

## The Week in Philadelphia

PHILADELPHIA, May 26—The demand for passenger cars, especially of the closed type, is reported by dealers to be fair, although in only few instances have deliveries not yet caught up with orders. It is expressed as the general belief that had deliveries been better last month and the month previous there would now be an even heavier demand; but public knowledge of the trade condition has caused a considerable number of intending purchasers to hold off until cars are coming through from factories more rapidly. Sales of motor trucks, trailers and tractors are slow.

Members of the Philadelphia Automobile Trade Association were surprised and pleased to obtain a rebate of 100 per cent on the amount paid by them for space at the recent passenger car show in the Commercial Museum. It means, in other words, that the financial success of the show was such that it was decided to repay from the profits all members who had taken space.

The Overland-Harper Co. has just moved its general offices, parts and wholesale departments to its new quarters at Chestnut Street and 41st and 42nd Streets, now occupying an entire block and having 150,000 sq. ft. of floor space. All departments of the business will be concentrated there, except the retail salesrooms, which will remain at 1627-1629 Arch Street.

The second of the series of discussions on cost-accounting systems in the operation of motor trucks was held by the Motor Truck Owners' Association in the Bellevue-Stratford, in charge of the committee recently appointed by the association to investigate such systems. C. B. Montgomery is chairman. Various cost-accounting methods were explained, by chart and otherwise. It was accentuated that at the ton-mile cost is the important point, as it is based both on mileage and on tonnage carried. The ton-mile, it was shown, is properly computed by multiplying the truck's round trip mileage divided by two, by the total number of tons, or other units, such as yards or gallons carried.

The sales force of the Maxwell-Chalmers Sales Corp. were guests at a smoker and vaudeville entertainment given by the company at the quarters of the Philadelphia Automobile Trade Association.

Lieut.-Col. C. P. Franklin, who recently returned from service on the Italian front, was a speaker at the monthly meeting of the Philadelphia Automobile Accessories Trade Association.

The state legislators at Harrisburg are now speeding up legislation that will tend to control the rapidly increasing theft of motor vehicles. This impetus is

caused by the announcement that automobile-theft insurance will have to be abandoned, or curtailed, or else organized under a system that will allow more equitable rates. The senate has under special consideration at this time the Cox bill placing restrictions on the sale of used cars and requiring garagemen to have records of all cars left for storage or repair and to notify the police and highway commissioner of any cars whose manufacturer's number, or other distinguishing mark, has been tampered with.

Further mergers are now under way among several of the intercity motor trucking companies in this city. For the last 6 months changes have been of almost biweekly occurrence.

### To Study Tire Taxes

AKRON, May 26—The Rubber Association of America has appointed a committee of seven to make a study of the new federal tax on tires, tubes and accessories. Among those on the committee are F. C. Van Cleef of the Goodrich, B. M. Robinson, Firestone, and C. L. Landon of the Goodyear.

New members of the association just admitted include a number of Akron men, as follows: H. J. Adams, C. R. Quine, Akron Equipment Co.; T. M. Gregory, Jr., M. D. Kuhlke, Kuhlke Machine Co.; John Hadfield, Lincoln Rubber Co.; Leo Meyer, A. P. Whetlen and F. E. Holcomb, of the J. K. Williams Foundry & Machine Co.; Paul E. Collette, of the Oak Rubber Co., Ravenna, and Joe S. Benner of the Electric Rubber Reclaiming Co.

### Acason Adds 1½-Ton Model

DETROIT, May 17—The Acason Motor Truck Co. has added a 1½-ton model to its line. It will have a Waukesha engine and may be equipped with either 35 x 5 front and 38 x 7 rear pneumatic cord tires, or 36 x 4 front and 37 x 7 rear solids.

### Detroit Stages "Motor Transport Day"

DETROIT, May 26—Motor Transport Day, Detroit's gigantic truck merchandising event, was held May 19. Nearly 1000 trucks were in line, including nearly every truck made or sold in Michigan. The event was staged to promote the "ship-by-truck" idea and the message was carried into the minds of the thousands who watched the pageant, by the trucks laden with every commodity or material which they were designed to carry.

There were 17 factory bands in the parade. The affair was staged by the Detroit Transportation Association, aided by F. W. Fenn, secretary of the motor truck division of the National Automobile Chamber of Commerce.

## The Week in Boston

BOSTON, May 26—New agencies continue to be added to the list in Boston. Amos J. Shorey, who is the directing genius in the New England Velie Co., has added the Moon to his line. He has the New England territory for it. He is considering adding still another car to his string. The Moon had been sold here previously by two different companies, but it has been a year since anyone had it last. Shorey closed with Peter Thompson to handle the line in Boston at retail.

M. E. Jackson, of the American Six, came over from the factory in New Jersey this week and spent a few days talking with people who were interested in acting as distributors for the line. He announced that he had finally closed with two men in the mercantile field who will make their first venture in the motor industry handling the American. He was not at liberty to state their names, as the men wished a chance to negotiate for salesrooms, and if it were known what they had they feel rents would be boosted.

Frank E. Wing of the Marmon and Al Sowers and Bill Haskell of the Lexington are to combine business with pleasure by visiting their factories and attending the 500-mile race at Indianapolis. The Lexington Automobile Co. is to have a dealers' convention following the race at its factory at Connorsville, Ind., and it will be host to the men for the big race.

Following closely upon the heels of "Jim" Gilson, of Mitchell-Lewis fame, who helped put Racine, Wis., on the motor map, and who returned last week as a major of artillery from Europe wearing the Croix de Guerre, there stepped off a transport this week William Mitchell Lewis, also bedecked with medals, and the rank of colonel for his war services. He was met by a delegation from Racine who came to bid him welcome with other soldiers from Wisconsin. It seemed a strange coincidence to have Gilson and Lewis, who had been associated in business together in producing the Mitchell and Lewis cars, and who were in widely separate units abroad, to land at Boston within a few days of each other.

Fred C. Harrington, for a long time in charge of the truck department of the New England Velie Co., and before that with the Packard, has been made assistant manager of the Selden Motor Car Co., Boston.

Arthur W. Fonda, formerly with the Critchfield Advertising Co., handling the New England territory, has gone to Chicago to become manager of the Oldfield tire agency.

D. C. Price, who was appointed manager of the Mason Tire Branch for New England a few weeks ago, has opened up salesrooms at 165 Massachusetts avenue.



B. W. Twyman and Robert Ritchie, who were identified with the Fred C. Henderson Co., handling Clydesdale and Signal trucks, have resigned to take the New England agency for the Signal line.

Otto Rickert, for some years with the Boston Oakland agency, has resigned to take a position in charge of the service department of the Dunbar-Hoag Motor Co., Springfield, Mass.

Alfred Cutler Morse has placed an agency for the Roamer car at Springfield with F. C. Magranis of the Summer Street garage.

V. A. Neilsen, who has built up a business dealing exclusively in electric repairs for out of town garages, has been forced to move from 390 Newbury street to larger quarters at 705 Beacon street.

The Auto Welding Co. has opened a large repair department in a new building at 198-200 Brighton avenue, in the Allston district.

### Gardner Heads Tractor Men

MINNEAPOLIS, May 24—The Northwestern Tractor Trade Association has elected officers as follows: President, J. E. Gardner; vice-presidents, N. B. Nelson, E. S. Techtonius; secretary, L. C. Pryor; treasurer, H. W. Brown; directors, F. M. Warner, J. F. Bartles, T. W. Hicks, R. H. Proctor, J. S. Molstad.

### To Reintroduce Highway Commission Bill

WASHINGTON, May 24—The reintroduction of the bill providing for the establishment of a Federal Highway Commission to take over the control of national highways, the distribution of funds under the Federal Roads Aid Act and to co-operate with the state highway departments was forecast by a meeting held here May 20 by Senator Charles E. Townsend, father of the bill, with members of the automobile and highway industries.

The bill which takes over the present duties and authority of the Bureau of Public Roads, Department of Agriculture, and which greatly enlarges the scope and duties of the road authorities, is designed also to lift highway control from its present position as a relatively unimportant part of a large department and give it the prominence it merits.

Senator Townsend is the chairman of the Committee on Post Offices and Post Roads. He informed the convention here to-day that he plans again to introduce the bill as soon as he can add various amendments and improvements that have been suggested since the last Congress when the bill was lost in the filibuster that ended the session.

### Buda Establishes Service Companies

HARVEY, ILL., May 24—The Buda Co. plans to establish Buda engine service companies all over the country. The first will be opened in Los Angeles, San Francisco, Seattle, and possibly Portland, Ore. The establishment of a service company in Kansas City will take care of the Middle West and New York City will be the Eastern headquarters.

### Studebaker to Spend \$8,500,000 Within Year

SOUTH BEND, May 26—The Studebaker Corp. will expend \$8,500,000 during the present year for construction work. Announcement that the expansion would take place during the coming year was made by the directors of the corporation recently. The amount decided upon is twice the previous estimate of construction work for the ensuing year. The change of the plans of the corporation will incidentally make South Bend's housing problem more serious. In order to cope with the situation properly the Chamber of Commerce held a big meeting to discuss the matter.

Plans are now under way to convey the city's needs in the housing line to the public in every way possible. Newspaper advertising, billboards other than the one installed in the courthouse yard will be erected. Propaganda of all kinds will be launched to impress the people of South Bend with the extreme necessity of building more homes to relieve the building situation.

At the present time there is a need of 2,325 more houses in the city, with only 80 permits for new residences issued from the office of the building department.

These facts were strikingly brought out at the meeting in the Chamber of Commerce, Monday noon.

W. D. Guy, who has charge of the construction at the Studebaker plant, delivered the main talk at the Chamber of Commerce luncheon. He told of the development of the Studebaker plant from the time the work was started down to the present proposed expansion.

His talk was made more interesting by the fact that a series of photographs were introduced, showing the gradual development of the construction now under way. These photographs are taken on Tuesday of each week and start with the work of excavating for a foundation, until the last photos which show the concrete piers which are weekly becoming more numerous.

### N. A. C. C. Schedules Meetings

NEW YORK, May 26—To properly handle many problems arising in the industry a number of important meetings have been called by the National Automobile Chamber of Commerce to be held at the general headquarters in New York during the week of June 2. There will also be a couple of meetings at Washington.

Following is the schedule of meetings of automobile and truck manufacturers:

June 2—10:00 a. m.—Washington, D. C., Export Committee, J. Walter Drake, Chairman, for conference with officials of Department of State and Department of Commerce on foreign trade limitations.

June 3—Washington, D. C., meeting of Tax Committee in connection with elimination of taxes on cars, trucks and parts.

June 4—10:00 a. m.—N. Y. Headquarters, Directors' meeting.

June 4—2:00 p. m.—N. Y. Headquarters, meeting of Truck Committee, Windsor T. White, Chairman.

June 5—10:00 a. m.—N. Y. Headquarters, annual meeting, members.

June 5—1:30 p. m.—N. Y. Headquarters, regular meeting, truck manufacturers, members of N. A. C. C.

June 6—10:00 a. m.—Meeting, export managers, N. A. C. C., N. Y. Headquarters.

### Accused in Car Theft Deal

ATLANTA, May 24—Raymond W. Glass, general manager of the Raymond Phonograph Co., and alleged by the police and solicitor general's department to be responsible for automobile thefts, was sentenced by Judge John D. Humphries in the criminal division of the superior court to five years on the chain gang. He immediately gave notice, through his attorney, that he would file a motion for a new trial and Judge Humphries fixed bond at \$10,000. Glass is also a truck dealer.

A verdict of guilty, with recommendation that the case be treated as a misdemeanor, was returned by the jury at 3 o'clock Sunday afternoon, after a trial which had occupied three days. In pronouncing sentence Judge Humphries said if the defendant was guilty a misdemeanor sentence was not sufficient for his crime. If he was not guilty, he said, he should then be set free. He refused to accept the recommendation of the jury.

Glass was tried on a charge of having an automobile in his possession on which the motor numbers had been changed. While he was not actually charged with larceny of the cars it was alleged by the solicitor general that he was the instigator of the theft and it was alleged the men who did the stealing were his accomplices.

Glass' conviction was the climax of an extended investigation on the part of the local police, sheriff's office, county police and solicitor general's department in a campaign against automobile thieving. It is the belief of the solicitor general that several gangs have been working throughout the south from Atlanta in a systematic manner, and that hundreds of cars have been stolen as a result.

### Housewarming for N. Y. Dealers

NEW YORK, May 26—The Automobile Dealers' Association, Inc., of New York will formally throw open its new headquarters to members with a housewarming on Wednesday evening, May 28. William J. Allen of the Allen Tire Case Co. has had charge of the entertainment features of the program and among other things has arranged for a band and all the trimmings. A buffet lunch will be served. The new rooms are at 1845 Broadway in the Colt-Stratton Building.

### Puritan Takes Over Detroit Axle

DETROIT, May 24—The Puritan Machine Co. has purchased the entire stock of the Detroit Axle Co., both concerns being located in Detroit. The purchase of the Detroit Axle Co. makes a total of 357 concerns engaged in the production of automotive vehicles, accessories and equipment absorbed by the Puritan Machine Co.



## Resignations and Promotions Place Workers in New Places

### Prominent Tradesmen Assume New Duties

**F. E. McClure**, of Cleveland, has been named manager of the Des Moines Ford branch to succeed **P. F. Minnock**, who went to the Kansas City branch as manager a month ago. McClure has been manager of the Cleveland and Cincinnati branches for several years.

**W. D. Hopson**, who for three years represented the Studebaker Corp. of America as service supervisor in the Orient, has been appointed service representative for the General Motors Export Co. in the Far East. He expects to sail for Shanghai about June 15.

**Claude M. Nankivel** has been appointed manager of the Foreign Department of the Bates Machine & Tractor Co., Joliet, Ill., manufacturer of Bates Steel Mule Tractor. Henceforth the foreign business will be handled from the new office at 347 Madison Avenue, New York City.

**Miss Sarah Jelliffe**, who has been advertising manager of the S. C. Johnson & Son Co., Racine, for a number of years, is resigning to become connected with the Western Advertising Agency.

**George W. Brooks** has been appointed district representative of the Hudson Motor Specialties Co., of Philadelphia. His territory will include Texas, Oklahoma, New Mexico, Kansas and Arkansas.

**E. P. Barnett**, widely known in the motor truck merchandising field in Wisconsin, has been appointed sales manager in the Milwaukee territory for the Titan Truck Co., Milwaukee, manufacturer of the Titan motor truck. He formerly was connected with the Sterling Motor Truck Co. and M. D. Newald & Co., Stewart distributor at Milwaukee.

**J. J. Koehler**, former sales manager of the Creek Motor Sales Co., 215 Wisconsin Street, Milwaukee, Wisconsin distributor of the Elgin Six, has been appointed exclusive retailer of the Elgin in the Milwaukee county territory. This business will be conducted as the Milwaukee Auto Sales Co., with headquarters at 1007 Kinnickinnic Avenue.

**E. Leidich** has been appointed foreign sales manager of the Columbia Motors Co., Detroit. He was formerly in a similar position with the Paige company.

**A. R. Ruggles**, vice-president and production manager of the Panhard Motors Co., Grand Haven, Mich., has resigned, due to ill health.

**M. A. Young**, one of Detroit's oldest automobile dealers has taken the agency for the Peerless car in the Detroit territory.

**Benjamin Briscoe**, president of the Briscoe Motor Corp., Kalamazoo, Mich., who is also a Lieutenant Commander in the U. S. Navy, has just been made a commander and has been taken from the retired list. He has been ordered to Great Lakes Naval Training Station and will again assume active duties.

**L. R. Scafe**, who was comptroller of the Dayton-Wright Airplane Co., Dayton, Ohio, is now secretary and treasurer of the American Finance Investment Co., same city.

**John H. Hertzler**, who was with J. S. Bretz, has been appointed sales manager of the Cleveland Worm Gear Co., Cleveland.

**A. W. Frehee** has recently become sales engineer of the wheel division of the Detroit Pressed Steel Co. He was formerly in charge of design under the chief engineer of

the Thomas B. Jeffrey Co., later becoming assistant chief engineer of the Jordan Motor Car Co., where he remained in that connection until the United States entered war.

**William J. Moore**, who has been director of purchases at the Fordson Tractor Co., almost from the time the company was organized, has resigned. His future plans are not known.

**George P. Emerson**, who for years has been engaged in the manufacture of parts and accessories, is president of the newly formed Apperson-Detroit Co., which will sell Apperson automobiles and render service in Detroit and vicinity.

**S. C. Steinharter** has joined the sales force of the Upright Tire & Rubber Co., Grand Rapids, Mich., and will take charge of the selling force of that company as sales manager.

**Henry Stadt** has joined the sales force of the Akron Tire Corp., with headquarters at the William Large's organization, Crescent Street, Grand Rapids, Mich., in the capacity assistant sales manager.

**E. G. Seale**, who discontinued his business as manager of the Detroit branch of the Portage Tire Co., and owner of the Acme Tire & Supply Co., to enlist in the army, has returned and is now manager of the Detroit branch of the Mason Tire & Rubber Co., Kent, Ohio.

**Frank H. Dewey**, for some time truck engineer for the Packard Motor Car Co., Detroit, is now associated with the Horizontal Hydraulic Hoist Co., Milwaukee, as sales engineer, and has opened a Detroit office for the company.

**Bruce E. Anderson**, formerly with the Ideal Engine Co., has been appointed general manager of the Lansing Body Co., Lansing, Mich., succeeding Frank Thoman, who has retired from the managership, but retains his position on the board of directors.

### NEW YORK STOCK EXCHANGE CLOSING QUOTATIONS MAY 24, 1919.

	Bid	Asked
Fisher Body, com.....	79	79½
Fisher Body, pfd.....	100	102
Goodrich, B. F., Co., com.....	72½	72¾
Goodrich, B. F., Co., pfd.....	107½	108½
Kelly-Springfield, com.....	122½	122¾
Kelly-Springfield, pfd.....	95	96
Kelsey Wheel, com.....	50	58
Kelsey Wheel, pfd.....	98	98½
Lee Rubber & Tire.....	34½	34¾
Stewart-Warner.....	93	99½
Stromberg.....	49½	49¾
U. S. Rubber, com.....	102½	103½
U. S. Rubber, pfd.....	114	115
Chandler.....	186	187
General Motors, com.....	194½	195
General Motors, pfd.....	92	92½
General Motors, Deb.....	90½	90¾
Maxwell, com.....	44½	45
Maxwell, 1st pfd.....	75½	75¾
Maxwell, 2d pfd.....	36½	36¾
Pierce-Arrow, com.....	54½	55
Pierce-Arrow, pfd.....	107	107½
Saxon.....	10½	10¾
Studebaker, com.....	89	89½
Studebaker, pfd.....	98	100
Stutz.....	63½	63¾
White.....	59½	59¾
Willys-Overland, com.....	36½	36¾
Willys-Overland, pfd.....	96	98

**Glenn H. Harker**, who spent 21 months in France, has returned to Detroit with the Croix de Guerre. He was connected with the Federal Tire & Rubber Co. when he enlisted, but has now become manager of the Falls Tire Co., Detroit.

**Harry S. Finkenstadt**, who enlisted in the aviation corps shortly after United States entry into the war, has recently been honorably discharged and returned to Detroit as western sales agent of the Carbon Steel Co., Pittsburgh.

**Horace Mills**, director of sales of the Stroh Casting Co., Detroit, has resigned, and it is said he is interested in founding an enterprise in which he will be associated with Walter O. Adams, formerly of Olds Motor Works, and more recently plant manager of the Erie Specialties Co., manufacturer of automotive products.

**Andrew J. Collins** has been appointed advertising manager of Ajax Rubber Co., Inc. He began his new duties May 19. He succeeds Charles R. Collins. The new advertising manager comes to Ajax after six years of service with Atlas Portland Cement Co.

**F. W. Marshner** has been appointed manager of the Detroit branch of The New Departure Mfg. Co., succeeding the late Samuel B. Dushner. Mr. Marshner has been with the company at its Detroit office for about 7 years.

### Reorganize Syracuse Auto Supply

**SYRACUSE, May 26**—The Syracuse Auto Supply Co. has been absorbed by the Syracuse Automobile Supply Corp. and plans immediately to enlarge its scope of activities. Officers of the new company are: President and general manager, Lee W. Bennett; vice-president, C. C. Bradley, Jr.; treasurer, C. Hamilton Sanford.

### Your Competitor Cuts Prices

(Continued from page 17)

on a sane business basis and we are going to do so as a measure of protection to all those people in this city who depend on us for merchandise and service, and also for all those, including you boys, who make a living with this company and enjoy being part of a live and successful organization.

"Our pride in our craft will not permit us to cut prices. Every man is entitled to a fair wage for his labor, and the house of Reilly is entitled to a fair profit for the service it gives to the public. We ask no more than this fair profit. We never shall take less, because when we take less we dry up the source of our prosperity and mark the beginning of our end.

"The prospect who wants a cut price will not cut the price of his service or his merchandise. He demands a full price from all those with whom he has dealings. We are entitled to ask from him the same thing that he asks of us. He should give us in measure as the public gives him.

"With the man who insists on a cut price there is only one policy for this company. That is to be firm. Explain the bad social and business standing of the price-cutter in this city and tell him that we have one price and only one, to all others, and to him."



## Play for a Day (Continued from page 8)

whereby the members are enabled to get together and get better acquainted.

In this list might be included a run to some seashore resort for a day's outing. We leave about 9 a.m., and make a 50-mile run, have a baseball game in the morning and a shore dinner at noon, with athletic events in the afternoon, with valuable prizes. We try to schedule events in which every one may take part. Fifty-yard dash, wheelbarrow races, three-legged races, sack races, shoe races, fat-men's dash, and, yes, we sometimes take the ladies along and put on a bean-bag contest, an egg-and-spoon race for them, too. And they get prizes.

We try to schedule about three golf tourneys a season. We've got some pretty fair players, and some not so good. Aside from the scratch events, we have handicaps—events for novices, etc., so that everyone can take part—and prizes. Usually a dinner is arranged and we've found that even if the men in the trade do not play they show up for the dinner anyway.

Once we hired a yacht and had a deep-sea fishing trip. Very few fish were caught. Those who weren't seasick spent

their time playing "that's good!" Apparently the fishing trip didn't make a hit with the membership, for they haven't asked for another one since.

And then we have our big annual dinner, immediately following the annual automobile show. The annual meeting and election of officers is held the same night as the dinner. Usually the lid is off that night, and cares are forgotten.

Of course, the chief purpose of these outings is to get better acquainted. Once you've played ball with another fellow along automobile row, and have made a neat catch of his line drive, he has a little more respect for you than before; after you've attended a shore dinner with him and waded through one of these affairs from broth to watermelon, he commences to think you're not such a bad fellow after all. During a golf tourney the foursomes often help break the ice of reserve, and a session at the nineteenth hole chases the glooms and makes the dealers love their competitors like brothers. We're strong for get-together outings over here in Jersey.—N. J. Auto Trade Association, C. E. Holgate, executive secretary.

## What They Do in California

One little stunt we did last summer—and you can rest assured it will be repeated many times this coming summer, with trimmings—was to hold our meeting outdoors, out among the trees, automobiles parked in a circle providing plenty of light, "trouble" lights connected with battery providing light for the secretary, plenty of fresh air to cool off the "hot" variety, plenty of pep on tap (nothing worse—we're "dry") and winding up with a wiener roast and bonfire and coffee "a la hobo."

That meeting made an impression. That's the idea.

What's more, it was not the wieners and things that were remembered so much as the spirit of the thing.

Some "poor lame ducks" have got to be fed.

Another variety has to be entertained.

Another kind has to be provided with toys.

Some have to be wheedled, some blustered at.

The real live ones just naturally come for the good they get out of it and the good they can inject into it—and the latter job is some "exhausting" process.—A. V. Storer, Secretary Pomona Valley Automobile Trade Association, California.

## Here's Seattle's Idea

The Seattle Motor Car Dealers' Association holds its outing generally in August. This outing consists of a picnic for all dealers and their employees, starting in the morning at 10 o'clock, and lasting until about 11 at night.

We have swimming, boat races, foot

races and other various contests, for which various kinds of prizes are given, generally in the form of an accessory for a car.

After this is over a big dinner is given for which the dealers furnish ice cream and coffee, the rest of the eats being supplied by individuals. The rest of the afternoon and evening is taken up with dancing. We have found these outings create a better spirit of co-operation among our employees and various dealers.—Motor Car Dealers' Association, Harry D. Austin, secretary, Seattle.

## Modesto, Too

Yes, indeed, we hold "outings!" Last April our organization held an old-fashioned barbecue on the famous San Joaquin River, which was attended by the entire membership of the organization.

And, too, we give an annual theater party, which last year netted us several hundred dollars.

## Shows the Waiting List

In selling the Kissel we show the customer who hesitates at the price our list of unfilled orders. Then we ask: "Do you think that if we are this far behind with our orders that the price will be lowered before late in the year at least?"—H. Rottersman, president, Rottersman Automobile & Truck Co., St. Louis.

This season we plan on holding a big party in the Yosemite Valley, in June, and a theater party in May.—Stanislaus Automotive Trade Association, H. P. Walls, secretary, Modesto, Cal.

## Gives \$100,000 for Nevada Roads

DETROIT, May 24—The Lincoln Highway Association headquarters in Detroit has made public a donation of \$100,000 from the General Motors Corporation. The money will be spent in building four or five short stretches of unimproved road between the two coasts which require outside aid. Two of these bad pieces of highway are in Nevada.

## Keep Your Window Working

*(Continued from page 15)*

support as shown in the illustration, with an old shoe partly cut away, exposing a tube that has been repaired in a few places. Make a good vulcanized repair on the shoe. Write a brief announcement such as that shown on a circle of card and fasten it to the wheel. Draw attention to the repairs by small notices pasted to the glass with colored tape running down to each repair. Give the price of the repairs. Make the display more interesting by inserting a liner that you handle and a few different sized cementless patches with notices that will remind a car owner that he should carry them.

Let it run a week and see what results it pulls. Then give it a rest, and fix up a window featuring new tires. Follow with a week of summer touring equipment, using the best of your dealer helps and manufacturers' posters, a few at a time, with the articles themselves connected in some way so that both will be looked at together.

## North Carolina Has a Show

ROCKY MOUNT, N. C., May 24—Dealers from various sections of North Carolina, South Carolina and Virginia were represented at the first annual Eastern Carolina Automobile Show, held at Rocky Mount, N. C., the week of May 6 to 10. A large number of dealers were on hand to close contracts for the year. The show was well attended and a large number of cars were sold. A number of good agencies were placed. Both dealers and distributors expressed themselves as being delighted with the show.

This is the first show in North Carolina to be put on by local dealers without the employment of a professional promoter, being held under the auspices and direction of the Automobile Dealers' Bureau of the Rocky Mount Chamber of Commerce. L. H. Duncan, secretary of the Chamber of Commerce, managed the show. Plans are under way for a bigger and better show next year. A portion of the proceeds of this year's show will be spent in advertising and in development work, and indications are that the Eastern Carolina show will become one of the big automobile events of the year in the South.



## FEW CARS OR TRUCKS FOR SALE TO PUBLIC

*Limited Number to Be Auctioned June 1—Probably 1000 Available*

WASHINGTON, May 23—The major portion of all surplus motor trucks and cars purchased by the army will be transferred to the various government departments. A comparatively small supply of used passenger and commercial cars of miscellaneous makes, not adapted for government use, will be sold at public auctions to be held at various military posts and camps, beginning June 1.

Over 10,000 motor trucks, passenger cars, ambulances and motorcycles already have been transferred by the War Department to other government bureaus. Deliveries have been made to the Post Office Department and the Public Health Service. Five thousand five hundred sixty-five of these trucks have been turned over to the Department of Agriculture, and within a few days shipments of this equipment will be made by the Motor Transport Corps to road commissioners of the states to which allotments have been made by the Bureau of Public Roads of the Department of Agriculture.

As fast as the several states place the present consignments in operation the director of sales will transfer additional trucks and road-building machinery. The further needs of the Department of Agriculture, the Post Office Department and the other government departments are expected to absorb practically the entire surplus of motor vehicles acquired for military purposes.

The motor equipment which is to be disposed of at public auction will be announced through advertisements in the press local to the communities in which the auctions will be held. The number which will be sold at auction will be very limited, and it is anticipated will number 1000. Detailed figures are not available, as it is possible that the government bureaus will absorb the surplus.

### Truck Sales Managers to Meet in Detroit

DETROIT, May 24—The National Association of Motor Truck Sales Managers will meet in Detroit the latter part of July. This was decided upon at the quarterly convention of the organization held in Philadelphia last week. The date of the Detroit meeting will be given out later.

### Milwaukee Against Tire Gyps

MILWAUKEE, May 24—One of the most constructive activities yet undertaken by the Milwaukee Tire Dealers' Association, in existence for about a year, is to begin a co-operative advertising campaign designed to offset the ill effects of the "bargain tire" nuisance, which has been growing stronger and stronger in Milwaukee as well as in other cities of the country.

"Buy tires from certified dealers only," says a large display advertisement published in the Milwaukee daily newspapers under the bold caption, "Warning." Continuing, the advertisement says: "Milwaukee is being flooded with so-called 'bargain tires,' cut-rate tires, worthless 'seconds' and 'rebuilt' tires. For your own protection, do not buy tires from anyone except a dealer with a proven reputation, from a man who sells a known tire and stands back of every sale he makes."

### Starters for Canadian Fords

DETROIT, May 24—Canadian Ford touring cars and roadsters will be supplied with starting and lighting devices as optional equipment at an extra charge after June 1. All Canadian closed models now have the starters as part of standard equipment.

### More Room for Auto Leather

NEW YORK, May 24—The Auto Leather Mfg. Co. has removed its plant and equipment from 21 Warren Street, New York, to a new building in Arlington, N. J. The company manufactures KAENJAY products.

### 33 Tractors at Denver

CHICAGO, May 24—The tractor demonstrations at Denver promise to be of unusual interest, and the following makes of tractors will participate:

All-Work	I. H. C.
Aultman-Taylor	Lauson
Avery	Leader
Best	Moline
Case	National
Cleveland	Parrett
Eagle	Rumely
Emerson-Brantingham	R. & P.
Fair	Sandusky
Fordson	Twin City
Four-Drive	Turner
General Motors (GMC)	Wallace
Gray	Wisconsin
LaCrosse	Waterloo-Boy
Hart-Parr	Wheat
Huber	Bullock
Holt	Balloy Motor Cultivator.
Illinois	

## Here's an Idea

Editor Motor World: To stimulate touring and create a feeling of fellowship among motorists and dealers in our vicinity we have decided to run a service car in charge of our mechanical engineer, Mr. B. E. Bryan, and carrying a crew of mechanics fully equipped to take care of all mechanical troubles that may arise on a trip to Indianapolis from Louisville to the 500 mile Sweepstakes race on the Indianapolis speedway, May 31.

This car leaves Louisville, May 30, at 12 o'clock noon and every motorist is invited to register with us, thereby being assured of service which will cost absolutely nothing should they have trouble on the road.

Returning, our service car will leave Indianapolis noon June 1.

We will extend this courtesy to any tourist who may be in trouble on the road regardless of make of car or his previous registration with us.

"When you see the United Motors blue banner wave your hand and you will be taken care of."—United Motors Co., Louisville, Ky.

## SHIP-BY-TRUCK PLAN NOW IN PHILADELPHIA

*Firestone Opens Bureau to Bring Shippers and Truck Men Together*

PHILADELPHIA, May 24—A "Ship-by-Truck" bureau—one of a chain already established in seven large eastern cities and soon to spread over the United States—has been opened by the Firestone Tire & Rubber Co., Inc., at 312-314 North Broad Street. The other centers in which the plan is in operation in the eastern territory near Philadelphia are New York, Newark, Scranton, Baltimore, Washington and Harrisburg.

The plan has for the function of each branch the bringing together of shipper and truck operator in a clearing-house proposition, leaving rates and other such items to the interested parties, merely offering service in creating the opportunity for a deal for both through lists and return loads advantages in the various cities where established.

In short, the bureau does the work of the usual chamber of commerce procedure in transportation for shippers. Both national and local advertising are aids to the bureau plan. In local advertising, in Philadelphia, for instance, there will be issued in the daily newspapers a tabulated and classified list of virtually all the trucking concerns, names, addresses, telephone numbers and routes being given, corrected to date. The present classification is as follows:

### Transportation Classification

- 1—Companies operating out of city on a daily schedule.
- 2—Companies operating out of city on long distance hauls by request.
- 3—Companies specializing in the moving of furniture, household goods, pianos, etc., operating in and out of city at any time.
- 4—Companies hauling anything, anywhere, at any time.

After the name of each concern is printed its route number, and there is, in the advertisement, a list of routes with corresponding numbers and the points they include. Shippers, including manufacturers, merchants and farmers, are invited to get in touch with the bureau by telephone or otherwise. Motor trucking concerns likewise are requested to supply such information as routes covered, tonnage, capacity of trucks, schedules and rates.

No such information, so completely tabulated, ever has appeared in this city regarding trucking companies as the full-page advance proof for Philadelphia's daily newspapers presents. The lists will be kept corrected from time to time. The local bureau is headed by W. R. Walton and a staff of five.

There is a "Ship-by-Truck" emblem that will appear on the trucks of the concerns using the bureau, on road signs and in other ways to emphasize the im-



portance of shipping by truck. The company representatives will talk "Firestone" advertising only to manufacturers of trucks in this connection. A special cost system is being planned for firms using the bureau's facilities.

#### Republic Furnishes Special Bodies

ALMA, Mich., May 24—The Republic Motor Truck Co., Inc., is now furnishing dealers with a complete line of special bodies made to their specifications. These bodies are built entirely by the Republic body department and can be mounted on trucks at the factory or shipped separately.

The object in building these bodies especially for Republic trucks is to furnish properly fitting bodies to those Republic dealers who are unable to secure special bodies without sending to some distant body maker who is unfamiliar with the design and detailed dimensions of the Republic chassis.

#### Lancaster Association Growing

LANCASTER, PA., May 24—The Lancaster Automobile Trade Association, which has 90 per cent of the Lancaster dealers as members, is making a campaign for 25 dealers from the surrounding country. At the regular monthly meeting at the Hotel Brunswick the Association was addressed by President George McFarland of the Harrisburg Association and President E. T. Satchell of the Lehigh Valley Automobile Trade Association.

#### Clinton County Dealers Organize

WILMINGTON, OHIO, May 24—The dealers, garagemen, accessory dealers and repairmen of Clinton county held a meeting recently for the purpose of organizing the Clinton County Automobile Trade Association. A. E. Mitzel of Canton, president of the association, was the principal speaker. Other speakers were Joseph McKinney of Dayton and A. I. McVey of Wilmington. Every firm which was represented came into the organization, which has been affiliated with the Ohio Automobile Trade Association. The initial membership is 27. Officers elected were: Carl Bangham, Wilmington, president; Gus Miller, Clarksville, vice-president; H. D. Pennington, Wilmington, secretary-treasurer. The next meeting will be held at Wilmington, May 28.

#### Reorganize Interstate Tractor

WATERLOO, May 20—Arrangements were completed here this week for the reorganization of the Interstate Tractor Co., which has been in the hands of a receiver since Jan. 1. L. C. Stearns, of Minot, S. D., is at the head of a corporation which is said to represent eastern capitalists who have ample money to put the concern on a sound basis, and which expects to resume operations of the plant within a very short time. Stearns has been at the head of automobile and tractor companies operating in the northwest, with branches at Minot, Grand Forks, Regina, Sask., and Calgary, Alta.

## DETROIT FEELS NEED OF SKILLED MECHANICS

### Dealers and Garages Short of Men and Want Soldiers Released at Once

DETROIT, May 24—There is a great shortage of motor mechanics and repairmen in Detroit service stations. Over a year ago, when the draft took thousands of young men from Detroit automotive factories and garages and sent them overseas as part of the 85th Division, the industry managed to weather the shortage because of the curtailment of automobile manufacture. Part of the 85th Division is home again and hundreds of experts have returned to their trades, but there is still such a great shortage of skilled mechanics that garages and dealers are clamoring for experienced men.

It is very possible that the immediate future will find the Detroit Automobile Dealers' Association behind an organized movement to get the Government to grant immediate release to all Detroit automobile experts still in the army. It is estimated that there are several thousands still in uniform.

It is estimated that there are over 1000 jobs here for garage men alone. The scarcity applies not only to skilled men but to helpers and washers. One of the biggest Woodward Avenue distributors states his service station has been without the service of a single washer for 10 days and there are slight prospects of getting one.

The Automobile Dealers' Association is doing everything possible to alleviate conditions by advising dealers and rounding up men, but the situation is not likely to improve until the thousands that joined the motor corps from Michigan are brought home and demobilized. As the

season advances conditions are going to grow worse, garagemen declare, as the amount of business will show a great increase with the coming of summer weather.

The return of the men is vital at this stage, it is pointed out, to avert a "jam" of cars and trucks out of commission through lack of repair facilities, which would mean a serious halt to otherwise prosperous business activity. What applies to cars and trucks is true likewise of tires and accessory repair departments.

#### Moore to Double Output

DANVILLE, ILL., May 24—The Moore Motor Vehicle Co. will double its working force during June. It is claimed that by June 25 the output of the plant will reach 125 cars a day. At present the output is 62 daily.

#### Chicago Pneumatic Tool Coming East

NEW YORK, May 24—The Chicago Pneumatic Tool Co. will put up a 10-story brick building here at 6-8 West Forty-fourth Street and will move its general offices to this city from Chicago.

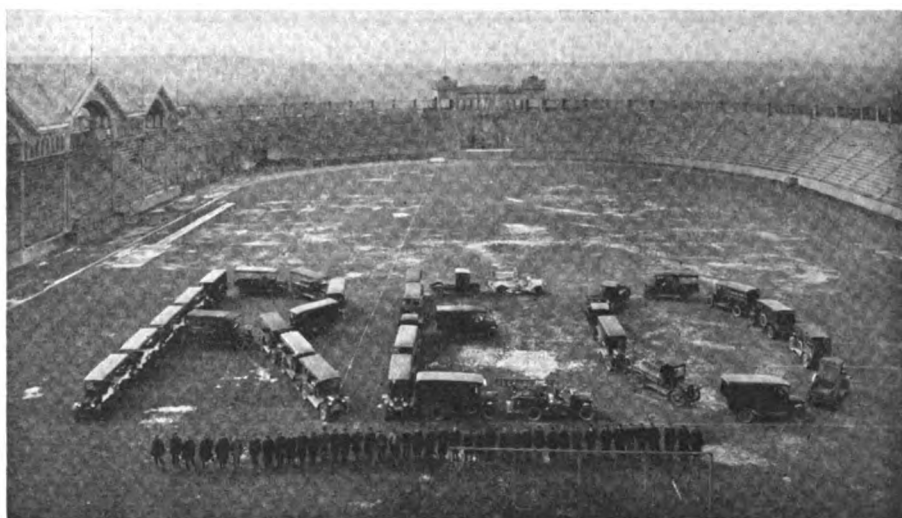
#### Two New Van Dorn & Dutton Branches

CLEVELAND, May 24—The Van Dorn & Dutton Co. has opened branches in New York and Chicago. Harry F. Keegan will manage the Chicago office, at 1241 First National Bank Building. His brother John will manage the New York office, at 30 Church Street.

#### Hackett Soon in Production

GRAND RAPIDS, MICH., May 24—The Hackett Motor Car Co., is getting its new plant ready for the manufacture of cars and hopes to be in fair production by July 1. R. L. Leigh, who has been in the automobile manufacturing business for a number of years, has been appointed by the directors as factory manager.

## HOW GOOD IDEAS ARE BORN



This picture shows the word Reo spelled with Reo trucks grouped in the stadium of Syracuse University, Syracuse, N. Y. Here's how the idea was born: Carl Berger, truck-manager for the De Witt Motors Co., saw President Wilson's face, made with soldiers, in the movies one night. Berger at once thought: "Why not spell Reo with Reos?" And he did it the same week. There's a sales idea in everything you look at. How many can you see about you right now?



## COMING EVENTS

### Races, Contests and Tours

Atlantic City, N. J.	May 30	.....	Airplane race, Aeronautic Convention.
Los Angeles, Cal.	May 30-31	.....	Third Annual, Los Angeles-Yosemite gasoline economy run.
Richmond, Va.	May 30-31	.....	Dirt track meet, Virginia State Fair Grounds.
Indianapolis, Ind.	May 31	.....	500-Mile Sweepstakes, Indianapolis Speedway.
*Sheepshead Bay, N. Y.	June 14	.....	Speedway.
Atlantic City, N. J.	July 4	.....	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	.....	Speedway.
Cincinnati, O.	July 5	.....	Speedway.
Uniontown, Pa.	July 19	.....	Mid-Summer Meet. Speedway.
Sheepshead Bay, N. Y.	July 26	.....	Speedway.
*Middletown, N. Y.	Aug. 15	.....	Dirt track event.
Elgin, Ill.	Aug. 22-23	.....	Road race.
Sheepshead Bay, N. Y.	Aug. 23	.....	Speedway.
Uniontown, Pa.	Sept. 1	.....	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	.....	Speedway.
*Allentown, Pa.	Sept. 27	.....	Dirt track event.
Cincinnati, O.	Oct. 1	.....	Speedway.
*Trenton, N. J.	Oct. 4	.....	Dirt track event.
*Danbury, Conn.	Oct. 11	.....	Dirt track event.

\*Tentative dates.

### Meetings and Outings

Washington, D. C.	June 3-6	.....	Pan-American Commercial Conference, Pan-American Union Bldg.
Chicago, Ill.	June 2	.....	National Gas Engine Assn., Hotel Sherman.
Chicago, Ill.	June 2-3	.....	Twelfth Annual Convention, Hotel Sherman, National Gas Engine Assn.
Hot Springs, Va.	June 2-6	.....	Convention, Automotive Equipment Assns., Homestead Hotel.
Philadelphia, Pa.	June 21	.....	Annual Outing, Kugler's Mohican Club. Motor Truck Assn. of Phila., with the Phila. Auto Trade Assn., Automobile Accessories Business Assn. and the Camden Auto Trade Assn.
Ottawa Beach, Mich.	June 23-27	.....	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-25	.....	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford

### Foreign Shows

Venezuela, S. A.	May 15-June 1	.....	National Exhibit of Venezuela
Paris, France	Oct. 15	.....	Grand Palais—International Automobile Manufacturers' Congress.
London, England	November	.....	Olympia—International Automobile Manufacturers' Congress.

### Aeronautical Exhibition

Atlantic City, N. J.	May 1-June 1	.....	Second Pan-American Aeronautic Convention and Exhibition.
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### Tractor Demonstrations

College Park, Md.	May 30	.....	Power Cultivator Demonstration, Maryland State Department of Agriculture.
Denver, Col.	June 9-12	.....	Sectional Tractor Demonstrations, Denver Tractor Club.
Wichita, Kan.	July 14	.....	Automotive Committee of National Implement Assn.
Aberdeen, S. D.	August 18-22	.....	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	.....	Inter-Provincial Plowing Match and Tractor Demonstration.
Columbus, O.	July 28-29	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Aug. 1-2	Piqua, O.	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Postoria, O.	Aug. 6-7	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Akron, O.	Aug. 12-13	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.

### 1919 Automobile Blue Books

THE 1919 Automobile Blue Books are ready. The regiment of scouts who spend eleven months of the year in their cars to gather data and routings for the book report that America's highway system, as charted in the new volume, is almost at the half million mile mark. Covering 20,000 miles more than in any previous year, the Blue Book scouts state that 187,114 miles of American highway had to be recharted because of road development.

The maps are completely redrafted and the headnotes—which describe each route from the standpoint of road conditions, climate and scenery—place important information at the disposal of the motorist. Of late years, special effort has been given to "points of interest." These make it easy for the motorist to know what he should see. In the largest cities interesting spots are

usually of international fame, but in the smaller communities the motor traveler frequently misses points of historic and scenic interest through not knowing about them. These items number more than 600,000 words of "atmosphere."

Garages are listed in the general index, so that the tourist can tell at a glance how far he is from the nearest gas dispensary, accessory shop or overnight storage for his car. Hotels are in this index, as are service stations and repair shops.

Among other information gathered for motorists in these new books is a series of long distance tours from many centers, city street maps, altitudes of towns, kinds of road on each route, state motor laws, speed regulations, ferries on various lakes and rivers and timetables and rates for automobiles on ferries and boat lines. The series is divided into the following territories:

VOLUME I.—New York State and adja-

cent Canada, including Long Island and adjacent states as far as New Haven, Danbury and Waterbury, Conn.; Pittsfield, Mass.; Rutland and Burlington, Vt.; Cleveland, Ohio; Pittsburgh, Scranton and Delaware Water Gap, Pa.; Asbury Park and Atlantic City, N. J.

VOLUME II.—New England and Maritime Provinces, including Long Island, New York City and New York State as far as the eastern shore of the Hudson; also Albany, Lake George and Lake Champlain sections. Montreal and Quebec.

VOLUME III.—New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Virginia and West Virginia, including all main highways out of New York City with extension routes into southern New York State, eastern Ohio to Canton and Cleveland.

VOLUME IV.—Michigan, Indiana, Ohio and Kentucky, including extension routes into adjacent states and trunk-line routes across Illinois to Chicago, excepting Upper Peninsula of Michigan, which is included in Volume V.

VOLUME V.—Illinois, Minnesota, Wisconsin, Iowa and Missouri, including Upper Peninsula of Michigan and extension routes into all adjacent states.

VOLUME VI.—The Southeastern States, including West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Tennessee, with extension routes into adjacent states, including District of Columbia.

VOLUME VII.—Montana, Wyoming, Colorado, New Mexico, Texas, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Arkansas and Louisiana, with extension routes to Spokane, Salt Lake City and Phoenix and trunk-line routes eastward to the Mississippi River.

VOLUME VIII.—California, Nevada, Utah and Arizona, with extension routes into Oregon, Texas and New Mexico.

VOLUME IX.—Washington, Oregon, Idaho and British Columbia, with extension routes into California, Montana and two trunk lines to Salt Lake City.

### Briscoe's New Car About Ready

DETROIT, May 24—The new passenger car which Benjamin Briscoe and his assistant, Rodolphe Stahl, are designing for the Bellanger Frères Co., Paris, France, will be on the road in a few days. The first model is practically complete. It is made entirely of American parts, most of which will be shipped to France if they cannot be manufactured at the plant of the French company.

### More Room for Jordan

CLEVELAND, May 24—The Jordan Motor Car Co. has awarded contracts for building additional plant construction costing \$175,000, designed to increase Jordan capacity 150 per cent.

Five additional units are to be constructed, with other necessary accessories. There will be a new two-story office building, 250 x 100 ft.; an assembly room, 100 x 300 ft.; complete new power-plant, 40 x 60 ft.; a japanning building, 40 x 100 ft., and a motor testing building, 30 x 90 ft. The present main building will be remodeled. There will also be built additional railroad sidings and a concrete loading platform, 600 ft. long. Work is scheduled to start immediately.

### National Sales Organization for Republic

ALMA, Mich., May 24—The Republic Motor Truck Co., Inc., has completed a national sales organization as a division of its sales department and has opened eastern headquarters in New York, with J. Martin Van Harlingen as district manager. John Sawan will make his headquarters at Pittsburgh, operating from the New York office.



# MOTOR WORLD GUIDE

**Farm Tractors**

**Farm Tractors**

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Alis-Chalmers	6-12	2,300	...	W	2	LeRoi	4	4 1/2 x 6	G or K	1	Farquhar	15-25	6,300	...	W	3	Buda	4	4 1/2 x 6	G, K or D	3-4
Alis-Chalmers	10-18	4,800	...	W	2	Ow	4	4 1/2 x 8	G or K	3-4	Farquhar	18-25	16,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Alis-Chalmers	18-30	5,300	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4	Farquhar	20-35	19,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Allwork	14-28	4,800	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4	Farquhar	25-50	10,000	\$2,300	W	4	Climax	4	4 1/2 x 8	G or K	3-4
American	15-30	4,975	\$1,595	W	4	Beaver	4	4 1/2 x 8	G or K	3-4	Four City	11-25	6,800	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Appleton	12-20	4,900	...	W	4	Buda	4	4 1/2 x 8	G or K	3-4	Four City	21-35	10,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Atlas	16-26	5,400	1,750	W	4	Waukesha	4	4 1/2 x 8	G or K	3-4	Four City	30-50	14,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Aultman-Taylor	15-30	7,500	...	W	4	Waukesha	4	4 1/2 x 8	G or K	3-4	Four City	40-70	21,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Aultman-Taylor	22-45	12,500	...	W	4	Waukesha	4	4 1/2 x 8	G or K	3-4	Four City	50-75	25,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Aultman-Taylor	30-60	23,000	...	W	4	Waukesha	4	4 1/2 x 8	G or K	3-4	Four City	60-80	30,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Austin	5-10	750	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	80-100	35,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Austin	12-20	3,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	100-120	40,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Austin	15-30	4,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	120-150	50,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Austin	20-40	8,500	365	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	150-200	80,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Auto Tiller	5-10	2,150	550	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	200-250	100,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	8-15	4,900	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	250-300	120,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	12-25	7,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	300-350	150,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	14-28	6,800	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	350-400	180,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	18-36	9,200	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	400-450	200,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	25-50	12,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	450-500	220,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Avery	40-80	22,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	500-550	250,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	4,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	550-600	280,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	4,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	600-650	300,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	5,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	650-700	320,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	5,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	700-750	340,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	6,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	750-800	360,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	6,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	800-850	380,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	7,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	850-900	400,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	7,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	900-950	420,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	8,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	950-1,000	440,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	8,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,000-1,050	460,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	9,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,050-1,100	480,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	9,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,100-1,150	500,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	10,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,150-1,200	520,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	10,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,200-1,250	540,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	11,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,250-1,300	560,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	11,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,300-1,350	580,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	12,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,350-1,400	600,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	12,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,400-1,450	620,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	13,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,450-1,500	640,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	13,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,500-1,550	660,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	14,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,550-1,600	680,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	14,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,600-1,650	700,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	15,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,650-1,700	720,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	15,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,700-1,750	740,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	16,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,750-1,800	760,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	16,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,800-1,850	780,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	17,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,850-1,900	800,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	17,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,900-1,950	820,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	18,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	1,950-2,000	840,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	18,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,000-2,050	860,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	19,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,050-2,100	880,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	19,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,100-2,150	900,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	20,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,150-2,200	920,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	20,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,200-2,250	940,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	21,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,250-2,300	960,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	21,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,300-2,350	980,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	22,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,350-2,400	1,000,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	22,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,400-2,450	1,020,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	23,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,450-2,500	1,040,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	23,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,500-2,550	1,060,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	24,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,550-2,600	1,080,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	24,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,600-2,650	1,100,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	25,000	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,650-2,700	1,120,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	25,500	...	W	2	LeRoi	4	4 1/2 x 8	G or K	3-4	Four City	2,700-2,750	1,140,000	...	W	4	Ow	4	4 1/2 x 8	G or K	3-4
Bates Steel Oil	15-25	26,000	...																		



# Trucks

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Name and Model	Total Capacity	Price	Cylinder and Stroke	TIRES		Final Drive
				F.	R.	
Macer	M 31	4100 4-41x55	36x5	36x5d	W	
Macer	U 91	5000 4-51x55d	36x5	40x6d	W	
Mack	AB 1	2400 4-4x5	36x4	36x3d	C	
Mack	AB 1	2400 4-4x5	36x4	36x3d	W	
Mack	AB 1	2900 4-4x5	36x4	36x3d	C	
Mack	AB 1	2900 4-4x5	36x4	36x3d	W	
Mack	AB 2	3000 4-4x5	36x4	36x4d	C	
Mack	AB 2	3000 4-4x5	36x4	36x4d	W	
Mack	AC 3	4000 4-5x6	36x5	40x5d	C	
Mack	AC 3	4000 4-5x6	36x5	40x5d	W	
Mack	AC 5	5250 4-5x6	36x7	40x7d	C	
Mack	AC 5	5250 4-5x6	36x7	40x7d	W	
Mack	AC 7	5100 4-5x6	36x4	36x4d	C	
Mack	AC 7	5100 4-5x6	36x5	40x5d	W	
Mack	AC 15	5500 4-5x6	36x5	40x6d	C	
Mack	AC 15	5500 4-5x6	36x7	40x7d	W	
Manly	30 11	2050 4-31x55	36x4	36x5	W	
Manly	40 11	2350 4-31x55	36x4	36x7	W	
Manly	50 21	2800 4-4x5d	36x4	40x8	W	
Master	B 5	4800 4-4x5d	36x6	40x8d	W	
Master	JW 1	1900 4-1x55	34x3	34x5	I	
Master	JW 2	2300 4-1x55	34x3	34x7	I	
Master	O 2	2400 4-1x55	34x4	36x7	I	
Master	O 2	2500 4-1x55	34x4	36x7	W	
Master	A 3	3800 4-1x6	38x5	40x5d	W	
Master	B 5	4800 4-1x6	38x6	40x6d	W	
Master	T 6	2600 4-1x55	34x4	36x4d	I	
Master	T 6	2600 4-1x55	34x4	36x4d	W	
Maxwell	1	1085 4-31x5	32x3	32x4	W	
Memomine	1	1800 4-31x5	34x3	34x5	W	
Memomine	H 1	2475 4-31x5	36x3	36x5	W	
Memomine	D 2	2950 4-4x5	36x4	36x6*	W	
Memomine	J 3	2950 4-4x5	36x4	36x6d	W	
Memomine	J 5	4050 4-4x5	38x6	40x6d	W	
Meraland	19-B 1	2650 4-1x55	36x3	36x5	W	
Meraland	19-C 2	3400 4-1x55	36x4	36x7	W	
Meraland	19-G 4	4375 4-1x6	38x5	40x5d	W	
Meraland	19-J 5	4234 4-1x6	38x6	40x6d	W	
Munkgen	20 2	2325 4-41x5	36x4	36x6	I	
Munkgen	20 2	2325 4-41x5	36x4	36x6	W	
Nash	2018 1	1650 4-31x5	34x3	34x4	I	
Nash	4017 2	2350 4-1x55	36x5	36x5	W	
Nash	3018 1	2175 4-31x5	34x4	34x6	W	
Nelson & LaMoore	F1 1	2000 4-31x5	36x3	36x5	W	
Nelson & LaMoore	F2 2	2775 4-41x5	36x4	36x7	W	
Nelson & LaMoore	F3 3	2750 4-41x5	36x5	36x5d	W	
Nelson & LaMoore	F5 5	4750 4-1x6	38x6	40x6d	W	
Nette	H 2	3000 4-1x55	36x4	36x6	W	
Nette	H 2	3000 4-1x55	36x4	36x6	W	
Nites	E 2	1800 4-31x5	36x4	36x7	W	
Nites	E 2	2400 4-41x5	36x5	36x5	W	
Noble	NW 21	3100 4-41x5	36x4	36x7	W	
Noble	NW 4	3950 41x51	36x5	36x5d	W	
Old Hickory	M 1	965 4-31x5	33x4	33x4	B	
Old Reliable	1	2350 4-4 15	34x3	34x6	W	
Old Reliable	2	3250 4-41x6	34x4	36x6d	W	
Old Reliable	3	4000 4-1x6	34x5	36x5d	W	
Old Reliable	5	5000 4-1x6	36x6	36x6d	W	
Old Reliable	5	5000 4-51x65	36x6	40x6d	C	
Old Reliable	7	6000 4-1x65	36x6	40x7d	C	
Onoda	A 1	2200 4-31x5	36x3	36x5	W	
Onoda	A 1	2650 4-1x55	36x3	36x6	W	
Onoda	B 2	2000 4-1x55	36x4	36x4d	W	
Onoda	B 2	2000 4-1x55	36x5	36x5d	W	
Onoda	D 3	4750 4-51x5	36x6	40x12	W	
Onoda	E 2	4750 4-51x5	36x6	40x7	W	
Onoda	E 2	5000 4-31x5	36x6p	36x6p	A	
Onoda	E 2	900 4-21x5	31x4	31x4	B	
Overland	Panel Express	1075 4-11x4	33x4	33x4	B	
Overland	1	3000 4-4x5	34x3	34x3d	W	
Packard	1-E 2	3400 4-4x5	34x4	34x4d	W	
Packard	3-E 2	4100 4-1x55	36x5	36x5d	W	
Packard	4-E 4	4450 4-1x55	36x5	40x5d	W	
Packard	5-E 5	5150 4-5x5	36x6	40x6	W	
Packard	5-E 6	6400 4-5x5	36x6	40x7	W	
Packard	6-E 6	6850 4-4x5d	36x4	36x7	W	
Packard	6-E 6	6850 4-4x5d	36x5	36x5d	W	

## MERCHANDISING SPECIFICATIONS

THE tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.

Final Drive: W—Worm, I—Internal-Geared Reduction. B—Bevel, 4—Four-Wheel.



# MOTOR WORLD GUIDE

Passenger Cars

Passenger Cars

Model	Motor	Ignition	Lighting	WB	Tires	Rims	2- Pass.	5- Pass.	7- Pass.	Sedan
ALLEN Series 41	4-31x5	Conn	A-Lite	112	32x3 1/2	SS	\$1185	\$1695		
AMERICAN B	6-31x5	A-Kent	West	122	32x4	SS	\$1835	\$1865		
AMERICAN BEAUTY	6-31x5	G&D		121	33x4 1/2	SS		2000		
ANDERSON 400-A-E	6-31x4 1/2	Conn	Wetha	120	33x4	SS		1675	\$1750	\$2550
ANNIVERSARY	8-31x5	Remy	Bijur	130	34x4 1/2	SS	14000		4000	
APPEPPERSON 8-20	8-31x5	Remy	Bijur	130	34x4 1/2	SS	2625	\$2375	\$2625	\$3700
AUBURN 6-39-H-K	6-31x4 1/2	Remy	Remy	120	33x4	SS	11595	\$1595		
BELL	4-31x4 1/2	A-Kent	Dyneto	114	31x4	QD	1145	1145		
BIDDLE H	4-31x5 1/2	Eismann	G & D	121	32x4	QD	3000	*3100	\$2750	\$4400
BRISCOE BA-24	4-31x5 1/2	Conn	A-Lite	104	30x3 1/2	C	885	885		
BUICK H-6-44-47	6-31x4 1/2	Delco	Delco	118	33x4	SS	1465	1465		\$2195
H-6-48-50	6-31x4 1/2	Delco	Delco	124	31x4 1/2	SS		1785	\$2385	
CADILLAC 57	8-31x5 1/2	Delco	Delco	125	35x5	SS	3220	\$3220	\$3220	\$4000
CASE U	6-31x5 1/2	Wetha	Wetha	125	35x4 1/2	SS	\$2100		2100	
CHALMERS 6-30	6-31x4 1/2	Remy	A-Lite	117	32x4 1/2	SS	1565	1565		\$2250
CHANDLER	6-31x5	Bosch	Wetha	123	34x4	SS	11795		1795	\$2495
CHEVROLET 490	4-31x4 1/2	Remy	A-Lite	102	30x3 1/2	C	715	735	\$1185	
FB	4-31x4 1/2	Remy	A-Lite	110	32x4	SS	1110	1135	1685	
D	8-31x4	Remy	A-Lite	120	34x4	SS		1585		
COLE 870	8-31x4 1/2	Delco	Delco	127	32x4	SS	2595	\$2595	\$2595	\$3995
COLUMBIA D-C&S	6-31x4 1/2	A-Kent	W. Land	115	32x4	SS	11745	1600		\$2445
COMET C-51	31x5 1/2	Delco	Dyneto	125	33x4	SS		1685		
CROW-ELKHART CE-36	4-31x5	Conn	Dyneto	115	32x3 1/2	SS	1095	1095	\$1155	\$1445
CE-46	6-31x5	Conn	Dyneto	116	33x4	SS	1235	1235	\$1385	
CUNNINGHAM V-3	8-31x5	Delco	Wetha	132	35x5	SS	\$2450	*4750	4250	
DANIELS	8-31x5	Wetha	Wetha	127	34x4 1/2	QDR	3750	3750	\$750	\$5500
DAVIS 51-54	6-31x4 1/2	Delco	Delco	120	33x4	SS		11750	1995	\$2395
DISPATCH G	4-31x5	Bosch	USL	120	34x4	SS	\$1250	\$1290		
DIXIE FLYER L-25	4-31x5	Conn	Dyneto	112	32x3 1/2	SS	1095	1095		\$1450
DODGE BROTHERS 4-31x4 1/2	4-31x4 1/2	Own	N.E.	114	32x3 1/2	SS	1085	1085		\$1760
DORRIS 6-50	6-4 x5	Bosch	Wetha	132	35x5	SS		3750	\$750	\$615
DORT 11	4-31x5	Conn	Wetha	108 1/2	30x3 1/2	QD	1925	925		\$135
ELGAR D.F.	4-31x5	A-Kent	Dyneto	115	32x3 1/2	SS		1175	\$1175	\$1725
ELGIN H	6-31x4 1/2	Wagner	Dyneto	118	33x4	SS		1375	\$1375	\$1865
ESSEX A	6-31x4 1/2	Wagner	Wetha	118	32x4	SS		1395		\$1950
FORD T	4-31x4	Own	Delco	108 1/2	32x4	SS		1395		\$2250
				100	30x3 1/2	C	500	525		775
FRANKLIN 9B	6-31x4	A-Kent	Dyneto	115	33x4 1/2	SS	\$2400	\$2450	\$2450	\$3350
GRANT G	6-3 x4 1/2	Remy	Wagner	114	32x3 1/2		1120	1120		1645
HARROUN A-L	4-31x5 1/2	A-Kent	Remy	106	30x3 1/2		1095	995		
HAYNES 45	6-31x5	Remy	L-N	127	34x4 1/2	SS	\$2485		2485	\$3350
46	12-2 1/2 x5	Delco	L-N	127	34x4 1/2	SS		\$3250	\$3250	\$4000
HOLLIER 276	6-31x4 1/2	Remy	Splitdorf	114	32x4	SS		1785		
HOLMES	6-31x4 1/2	Eismann	Dyneto	126	34x4 1/2	SS			2900	\$3900
HUDSON Super-6	6-31x5	Delco	Delco	126 1/2	35x4 1/2	SS		\$2075	1975	\$2775
HUPMOBILE R	4-31x5 1/2	A-Kent	Wetha	112	32x4		1335	1335		2135
JONES 28	6-31x5 1/2	Remy	Wetha	126	34x4	SS	2100	\$2350	2100	
JORDAN L-40	6-31x5 1/2	Delco	Bijur	127	32x4 1/2	SS		\$2475	2475	\$3500
KING G	8-3 x5	A-Kent	Bijur	120	34x4	SS	2550	\$2550	2150	\$3100
KISSEL KAR Custom Built	6-31x5 1/2	Remy	Remy	124	32x4 1/2	SS				
KLINE KAR 6-42-H	6-31x4 1/2	Conn	Wetha	121	33x4		1865	1865	\$1865	\$2390
LEXINGTON R-19	6-31x4 1/2	Conn	Wetha	122	34x4	SS		1785	1785	\$2850
LIBERTY 10-B	6-31x4 1/2	A-Kent	Wagner	115	32x4	SS	1570	\$1720	1570	\$2640
LOCOMOBILE 48	6-41x5 1/2	Berling	Wetha	142	35x5	QD	\$6700	*6600	6600	
MADISON	6-31x5	Remy	Remy	115	33x4	SS		1550		
MAIBOHM B	6-31x4 1/2	A-Kent	Wagner	116	32x3 1/2	SS		1290		1890
MARMON 34	6-31x5 1/2	Bosch	Bijur	136	32x4 1/2	QD	13950	3900	3950	\$7540
MAXWELL 25	4-31x4 1/2	A-Kent	Simms	109	30x3 1/2	C	895	895		\$1545
MCFARLAN	6-41x6	Bosch	Wetha	136	35x5	QD	4300	\$4500	4300	\$5600
MERCER Series 4	4-31x6 1/2	Berling	Wetha	132	32x4 1/2	SS	4350	\$4500	*4500	
MITCHELL E-40	6-31x5	Remy	Remy	120	33x4	SS	11475	1475		2175
E-42	6-31x5	Remy	Remy	127	34x4	SS			1675	
MOLINE-KNIGHT L	4-31x5	Conn	A-Lite	118	34x4	SS	12000	2000		2500
MONITOR 6	4-4 x6	Conn	A-Lite	122	35x4 1/2	SS	12500			
MOON 6-46-10	6-31x5 1/2	Delco	Delco	117	33x4		1475		11475	
MOORE 4-31x4 1/2	4-31x4 1/2	Conn	A-Lite	125	35x4 1/2	SS	12500		2300	\$3250
MURRAY	8-31x5	Dixie	Wetha	128	34x4 1/2			895		
NASH 682	6-31x5	Delco	Delco	127	34x4	SS	11400	1400	11595	1640
684	6-31x5	Delco	Delco	121	33x4 1/2	SS				2250
NATIONAL 7-10	6-31x5 1/2	Delco	Wetha	128	34x4 1/2	QDR	12450	\$2450	2450	\$3120
NELSON 3-10	12-2 1/2 x4 1/2	Delco	Bijur	128	34x4 1/2	QDR	13050	\$3050	3050	\$3720
OAKLAND 34-B	6-2 1/2 x4 1/2	Bosch	U.S.L.	104	32x4	SS	1200	11400		1800
			Remy	112	32x4	SS	11075	1075		1600

ABBREVIATIONS: "A-Kent" Atwater Kent, "A-Lite" Auto-Lite, "Conn" Connecticut, "G & D" Gray & Davis, "Eismann" Eismann, "L-N" Leeson-Neville, "N.E." North-East, "W. Land" Ward Leonard, "SS" Straight Side, "QD" Quick Detachable, "C" Choke, "QDR" Quick Detachable, Reversible. NOTE: 30x3 1/2 means that the rear tires are 30x3 1/2 and the front are smaller. \*Extra C tire on Sedan.



# MOTOR WORLD

*for*  
**DEALERS, JOBBERS AND GARAGEMEN**

Volume LIX  
Number 10

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, JUNE 4, 1919

Fifteen cents a copy  
Three dollars a year



U. S. BALL BEARING MFG. CO. (Conrad Patent Licensee) CHICAGO, ILL., U. S. A.



**ABBREVIATIONS:** "A Kent" Atwater Kent; "A Lite" Auto-Lite; "Conn" Connecticut; "G & D" Gray & Davis; "Eismann" Eismann; "N.E." North-East; "N.W." Westinghouse; "W.Lnrd." Ward Leonard; "88" Straight Side; "QD" Queen's Daughter.

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U. S. BALL BEARING MFG. CO. (Conrad Patent Licensee) CHICAGO, ILL. U. S. A.



# -The most Efficient tractor in America-

## See the Steel Mule at Demonstrations this Summer

At the demonstrations you'll have a chance to see what a real performer the **STEEL MULE** is.

Don't wait if you're interested in connecting yourself with a high-class 3-plow tractor. Wire us to find out whether your territory is open, and get on the train and come to the factory.

The tractor business is getting down to a merit basis. The "show-down" is coming. We've known it all along and are prepared for it. The Steel Mule is perfected, and is daily proving itself to be the best 3-plow tractor made.

**STEEL MULES** are being bought faster than we can build them. Plans which will treble our production are being put into effect.

Do you know of another factory in production that is hard-pressed to fill orders? It is a significant fact that we're now running day and night to supply the demand. No accumulation of machines here.

We'll soon be in shape to allot some new territory. Wire for the **STEEL MULE** proposition.

**The Bates Machine  
& Tractor Co.**  
667 Jackson St.  
Joliet, Illinois



**Rating  
15-22 8**

# The Bates Steel Mule



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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## Editorial Contents

Peugeots Run One, Three in Victory Sweepstakes .....	8
Modern Methods in Ford Repairing.....	10
Eight Rules for Success.....	17
Sitting Around Won't Sell Tractors.....	18
Expect Less, Get More from Tractors.....	19
If They Could Do It, You Can.....	20
Keep Right on Selling.....	21
Scientific Garage Construction.....	22
Repairshop Short-Cuts.....	24
Editorial Observation .....	26
Letters from Readers .....	27
Dayton Ford Electric System.....	30
Automotive Equipment .....	31
The Law .....	32
The Retail News .....	33
Coming Events .....	44
Specifications .....	45
Regular News Department .....	36

Advertisers Index on Pages 176-177

# "NORMA" PRECISION BALL BEARINGS

(PATENTED)



When a car, a truck, a tractor, or a power boat fails—be it from the failure of ever so small a part—the owner's condemnation covers the unit as a whole. And he puts the responsibility for the failure squarely up to the builder of the unit to whom he paid the price—not to the maker of the defective parts.

A realization of this fact, on the part of builders of automotive units and electrical apparatus, therefore, explains the vast preponderance of "NORMA" equipped magnetos and lighting generators in the automotive world. Responsible builders know that "NORMA" gives security against bearing troubles.

**Be Sure—See That Your  
Electrical Apparatus  
Is "NORMA" Equipped.**



**THE NORMA COMPANY OF AMERICA**

1790 BROADWAY

NEW YORK

Ball, Roller, Thrust and Combination Bearings



# Facts on Scientific Merchandising and Financing

## *Intended for* **MOTOR CAR DEALERS**

- FACT #1** Scientific Merchandising depends largely upon proper financing.
- FACT #2** **PROPER FINANCING CAN BE ACCOMPLISHED** (from \$5,000 up to \$50,000) **THROUGH MY ASSISTANCE.**
- FACT #3** The amount of merchandise (the number of cars and models) you have in stock must be in proper ratio to your annual sales.
- FACT #4** You cannot successfully sell cars from pretty pictures—Demand cannot be created in that manner.
- FACT #5** You cannot make immediate deliveries, at all times, without the proper amount of stock on hand—Strikes at the factory; Railroad wrecks; Factories overselling their output and many other reasons interfere.
- FACT #6** If you wanted a pair of shoes, a piece of jewelry, or any other necessity or luxury, the dealer who showed you pretty pictures and shame-facedly confessed he could not deliver for several weeks would not receive your order—**HIS INTELLIGENT COMPETITOR WOULD.**
- FACT #7** If you are an intelligent dealer, there is no longer any excuse for you if you do not merchandize scientifically—I **WILL FURNISH YOU THE CAPITAL WITH WHICH TO DO IT.**
- FACT #8** To merchandise scientifically you must be able to plan your business for one year—Your showroom lease and all your expenses cost you money every day of the year.
- FACT #9** **THEREFORE I'LL ADVANCE YOU CAPITAL FOR ONE YEAR AT A TIME—SHORT TIME LOANS ARE DANGEROUS AND DO NOT ACCOMPLISH YOUR PURPOSE.**

### *My Offer*

You and I decide on the **AMOUNT OF CAPITAL YOU REQUIRE** and I'll invest that sum in new cars up to 80% of factory cost—You store the cars in the warehouse or display and sell them in your show-room.

**WHEN YOU SELL A CAR THE PROCEEDS COLLECTED FROM THAT CAR WILL BE INVESTED IN ANOTHER—I CONTRACT TO INVEST WITH YOU FOR ONE YEAR AND YOU CONTRACT TO PAY ME A SMALL SHARE OF YOUR GROSS PROFITS.**

Therefore with my advice and my money you can become a really successful Motor Car Merchant, merchandizing and financing scientifically.

Communicate with me and I shall reply personally.

**HARRY M. LASKER, 5 Columbus Circle, New York**

'Phone Columbus 8258



## “The Motor World Habit”

When J. E. Harrison first sent his subscription he did not use the Thompson letterhead, or enclose his business card. Before entering that kind of unidentified subscriptions we aim to find out what connection an applicant for subscription has with the trade. This is done in order that the Motor World circulation may be as nearly 100 per cent trade pure as is possible.

The Thompson organization, and thousands of similar organizations throughout the country, will be especially benefited by the very important series on “Save Money in Ford Repairing,” which starts in this issue.

THE HOME OF THE FAMOUS



AUTOMOBILE ACCESSORIES  
SUPPLIES AND REPAIRS

B. S. THOMPSON

MADISON, GEORGIA

April 28, 1919.

Motor World,  
New York City.

Gentlemen:

Answering your inquiry of April 24 as to why I have subscribed for MOTOR WORLD and what my particular activity is in the automobile industry, will say that I am service manager for B. S. Thompson of Madison, Georgia.

Prior to my connection with this firm I was lucky enough to have the benefits of MOTOR WORLD without having to subscribe to this great trade magazine myself, and having formed the MOTOR WORLD habit I naturally was at a loss when I located where it did not reach me.

It is the greatest service magazine published and I don't think any garage owner or manager should ever try to do business without its aid.

Yours very truly,

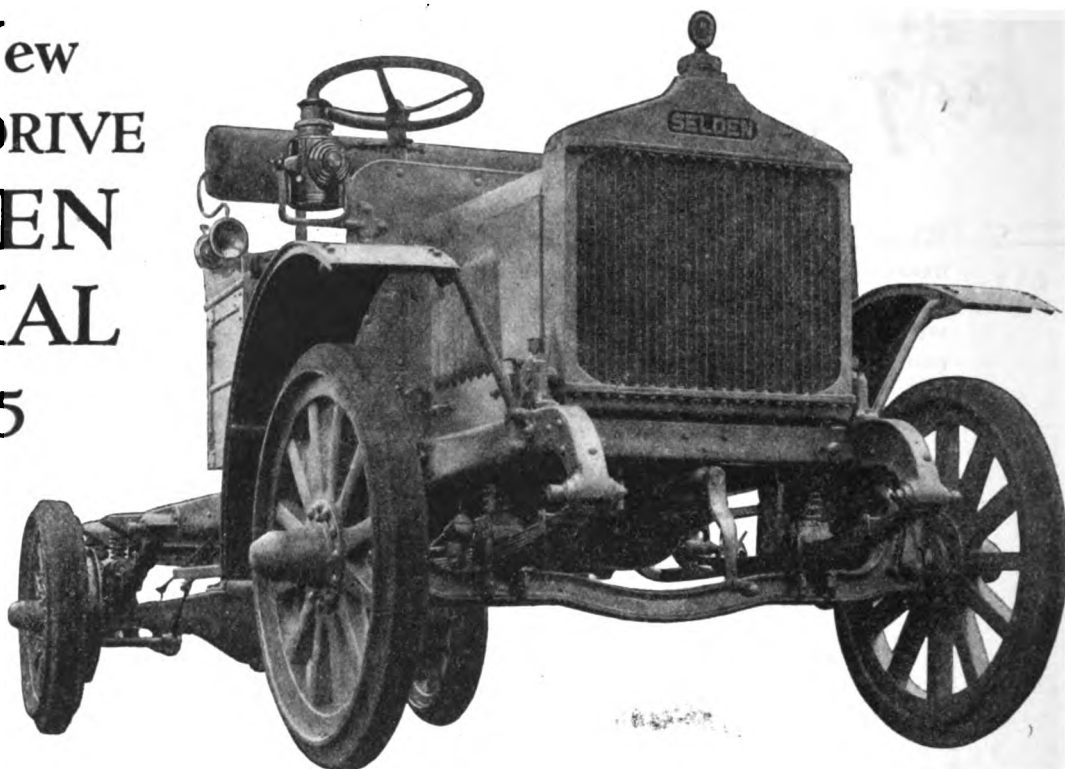
The other day a letter reached us from Thomas E. Cadek, who operates a garage, service station and accessory depot at Elmira, N. Y., in which he said: “I couldn't possibly keep house without Motor World and would feel the loss if I missed a single copy.”

From voluntary evidence that is constantly piling up we are sure that more than 20,000 subscribers feel much the same toward Motor World as do Thomas E. Cadek of Elmira, N. Y., and J. E. Harrison of Madison, Ga.



# The New WORM DRIVE SELDEN SPECIAL

\$2185



## The Lowest Priced QUALITY 1½ Ton WORM Drive Truck on the Market To-day

Manufacturing facilities greatly increased during the war, to meet the demands of the United States and allied governments for Selden Trucks, enable us to standardize production of this model to such an extent that we can sell the SELDEN SPECIAL at a price far below its value.

The SELDEN SPECIAL is a truck of the same rugged construction, possessed of the same gigantic powers of endurance, of the same design and built on the same sound engineering principles as the

other models in the line of SELDEN HIGH QUALITY TRUCKS. Under any hauling conditions, whether in the farming community, the traffic-jammed city streets, or in inter-city transportation service, the SELDEN SPECIAL will render HIGHLY EFFECTIVE, CONTINUOUS, ECONOMICAL and PROFITABLE SERVICE. The specifications of the SELDEN SPECIAL are proof of the high quality of the units which enter into the construction of this remarkable achievement in motor truck manufacture.

*Ask us to send you specifications of the SELDEN SPECIAL—the truck that meets the needs of to-day for QUALITY CONSTRUCTION at MODERATE COST.*

## DEALERS

The addition of the SELDEN SPECIAL to the Selden Line offers an unusual opportunity to you for sales at this time. This new model offers big truck value at an exceedingly moderate price. And the SELDEN SPECIAL makes its appearance at an opportune time—at a time when truck buyers have been awaiting

the appearance of just such a model as the SELDEN SPECIAL. If Selden Trucks are not at present being distributed in your territory, this is a good time to apply for the Selden line. The SELDEN SPECIAL is sure to be a big seller. Enjoy the profits on its sale in your territory.

**SELDEN TRUCK SALES COMPANY, Rochester, N. Y., U.S.A.**

# Selden Motor Trucks



# MOTOR WORLD

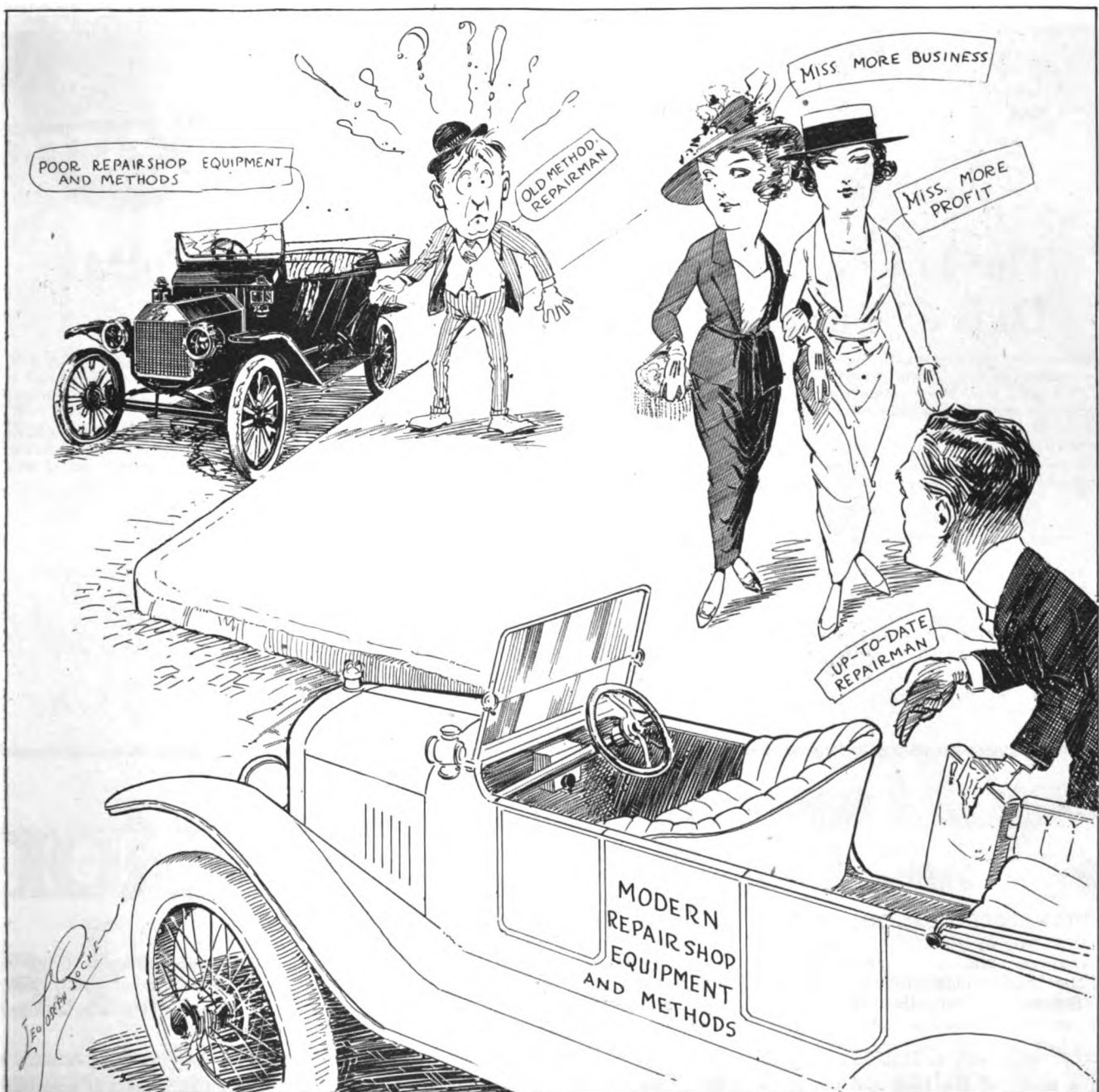
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, June 4, 1919

No. 10

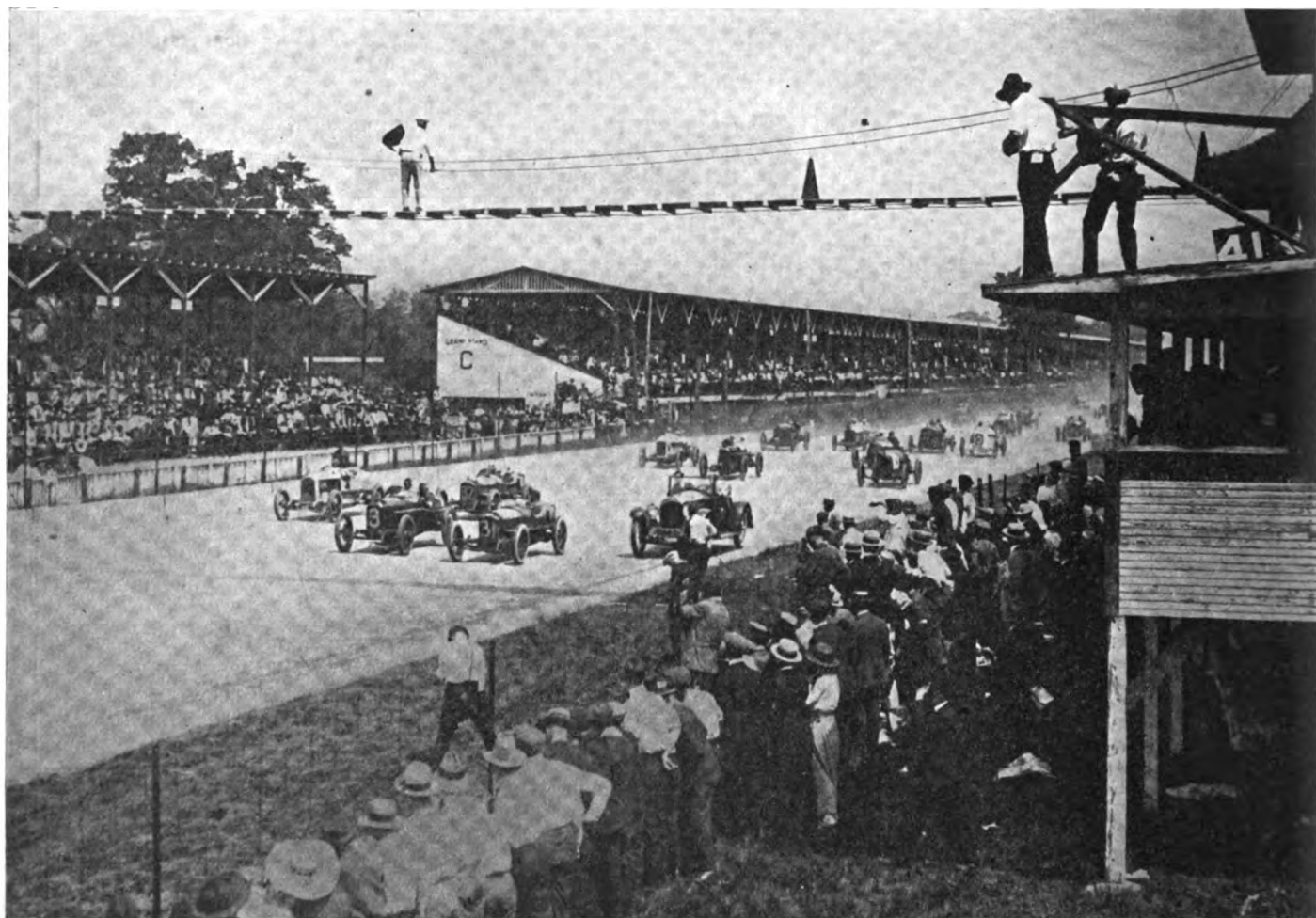
## The Man Who Stood Still





# Peugeots Run One, Three in Victory Sweepstakes

*Wilcox Leads Hearne Home at 87.12 M. P. H. with Goux Third—DePalma Leads for First Half but Finishes Sixth—Smaller Cars to Race Next Year*



*As usual, the start was a flying one, J. G. Vincent and Eddie Rickenbacker pacing the pack for a lap and then drawing to one side. This is the end of the paced lap*

INDIANAPOLIS, IND., May 31—It is maintained by the drivers, the team managers, and everyone connected with the Indianapolis International Victory Sweepstake run, that further development of the racing cars will come, only after smaller engines have been adopted. That this is true can be seen from a study of the race and comparisons with former attempts. All the cars in the race were designed for ter-

rific speeds, but were not designed for the wear and tear that a brick pavement can give. Consequently, while the race was fast and well run, most of the stops at the pits were made as a result of the tremendous vibration shaking something loose.

After the preliminary band playing, the cars were wheeled out on the track and lined up. The four cars in the first row were, the Chevrolet, the Frontenac,

the Peugeot, and the Packard. Ralph De Palma's car occupied the outer position. It was plain to see that the crowd was favoring the famous jinx artist.

Colonel J. G. Vincent was pacemaker. With him in his special Packard was Eddie Rickenbacker. At the moment of starting Ralph De Palma's engine died, resulting in an exhibition of speed on his part when he did get started, to catch up to the rest of the crowd. At the end of



the pacemaking lap, the cars were nicely in position, all bunched in rows of fours. It was noted after the race had started that there were thirty-four cars on the track, but after the second lap this extra man was flagged off.

The attendance at the speedway was the largest in the history of the track. It was estimated by Speedway officials that there were over 100,000 present. In addition there were great numbers of machines in the center of the oval and around the inside of the ring. The roads leading to the course were heavily congested with traffic an hour after the race had started.

De Palma took the lead at the start and held it continuously. The first lap was timed at a speed of 92.7 m.p.h. This is the rate at which De Palma was reeling off the miles until his trouble started. Wilcox, who drove very consistently and who had very little trouble, followed in the wake of the Packard almost all the way. The first car to roll into the pits was the Durant Special. The hose connection to the radiator was losing water at a fast rate. This stop cost the Durant car five minutes.

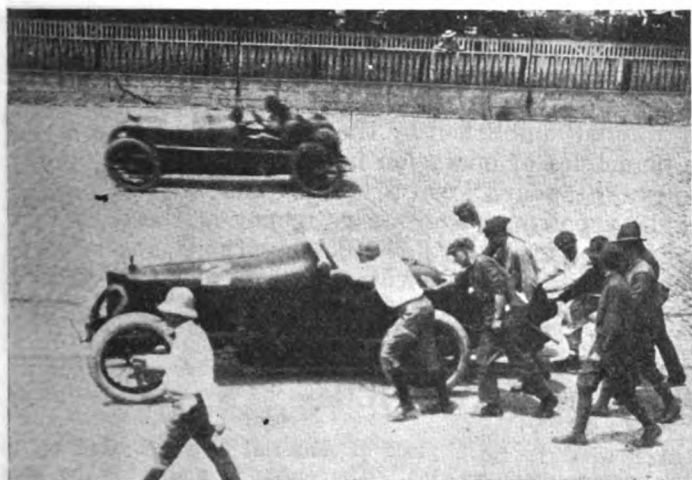
Much was expected from the Oldfield Special. During the preliminary runs it

had reeled off some very fast laps. During the race, however, it stayed in the pits for the last 480 miles. Sarles, the Oldfield driver, headed for the pits at the ninth lap. An examination showed that he had a broken rocker arm. This put him out of the race for the trouble could not be remedied. This was the first car to drop out of the race entirely. The next was the Richards, driven by Brown, a broken connecting rod being the cause.

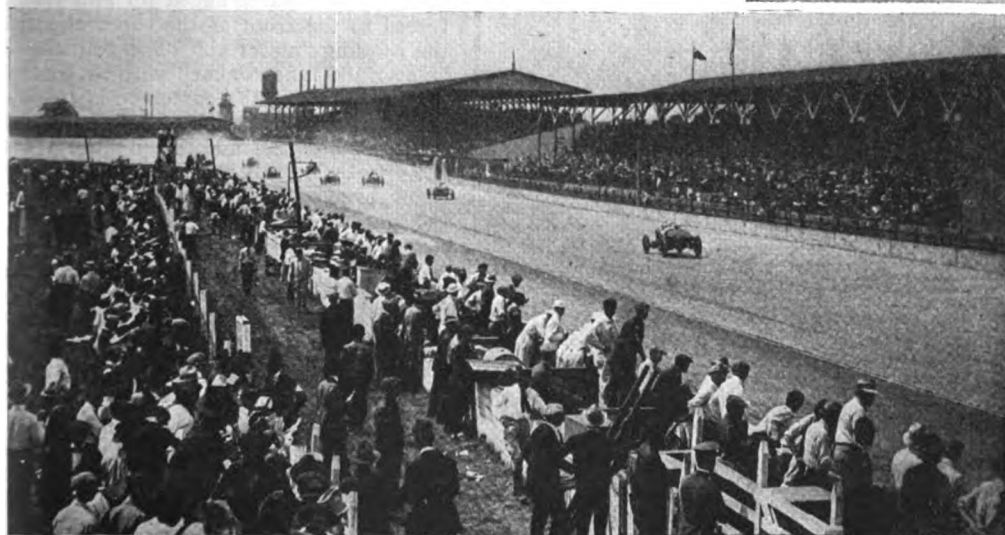
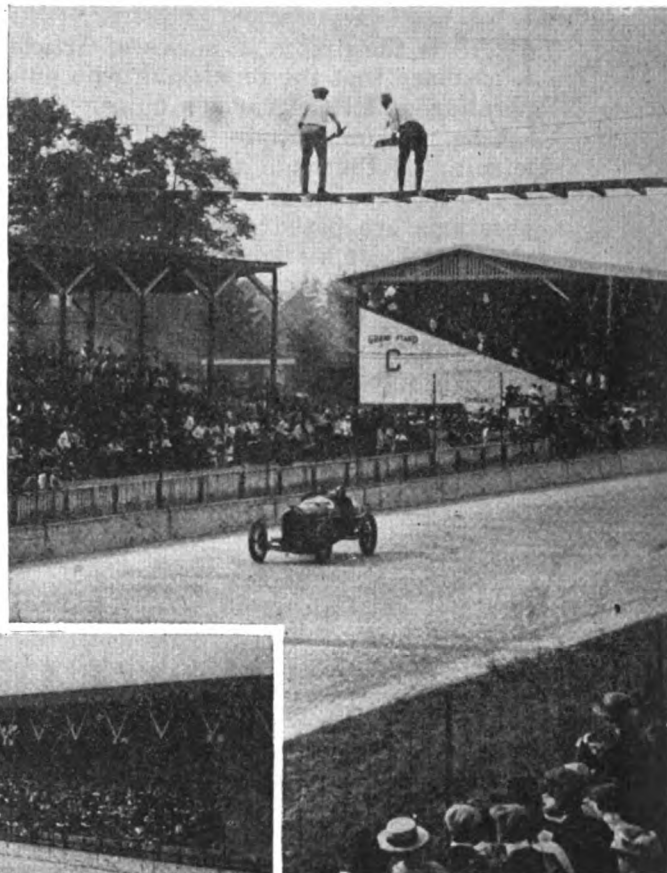
## How They Finished

Driver and Car	Time
Wilcox, Peugeot .....	5:40:42
Hearne, Durant .....	5:44:29
Goux, Peugeot .....	5:49:01
Guyot, Ballot .....	5:55:16
Alley, Bender .....	6:06:54
DePalma, Packard .....	6:10:10
L. Chevrolet, Frontenac .....	6:10:11
Vail, Hudson .....	6:12:42
Hickey, Stickel .....	6:13:57
G. Chevrolet, Frontenac .....	6:17:21

The Ballot cars were regarded with everything from apprehension to the "I told you so" spirit. At the end of the first 25 miles Rene Thomas was 1.55 seconds behind De Palma. The other three Ballot cars were slightly behind. The cars were bunched very closely for the first few miles, but the stragglers were soon lapped by De Palma, Wilcox, Cooper, Thomas, and Gaston Chevrolet. From then on keeping track of the race  
(Continued on page 36)



After a fine attempt, Ralph Mulford had to quit with a broken axle shaft. Right—Wilcox flashing under the starter's aerial perch



Left—In the early stages of the race, before the drivers got very much strung out along the track. A bunch on the southwest turn



*A Department of*

# BETTER MECHANICS

No. 106

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Modern Methods in Ford Service

*How to Perform Standard Overhaul Operations on the Model T Ford Car in the Shortest Time—Correct Methods of Testing, Repairing and Assembling to Prevent Come-Backs on Service Work*

By J. HOWARD PILE

THIS is the first of a series of articles on the best methods of Ford repairing. It is assumed that the repairman who puts these practices into effect is familiar with the operation of all the various units of the car. If he is not, it is strongly recommended that he read and study carefully the "Ford Manual" published by the Ford Motor Co., Detroit. A thorough understanding of the principles of operation is absolutely necessary to the repairmen who desires to make money. Standard Ford prices for the various operations are based on a close margin and the repairman who makes money at these prices must cut his labor expense to a minimum, deal decisively and quickly with all jobs and finally turn them out in such good shape that the owner will not have to come back to have the repair gone over.

### System in Handling Ford Service

SUCCESSFUL Ford service requires system in routing the jobs. A careful record of each job from the time it enters the shop till the time it leaves and is paid for is absolutely essential. No matter how large or how small the shop, a standard Ford repair order must be made out, giving the details of the work that is to be done. This is signed by the customer. The standard operations are written on the repair order *by name* and the price put down. All that is necessary thereafter is to enter up the parts used in effecting the repairs.

#### The Repair Order

The repair order is part of the system and hooks up with the routing of the work, so a perfect understanding of it is necessary. There are three sheets, the original (Fig. 1), the duplicate (Fig. 2) and the instruction card (Fig. 4). Two sheets of carbon paper duplicate what is written on the original on the duplicate and instruction card. Fig. 3 is the reverse of the forms shown in Figs. 1 and 2.

The original is filled in with the following details when the customer brings the car in:

Deliver to (owner's or driver's name).  
Month, day and year.  
Address.  
Telephone number.  
Engine number.  
License number.

Work to be performed (this is itemized by individual operations corresponding to the list of labor operations).

Prices (for labor only).

Owner's or driver's signature authorizing the work.

The original is the office copy. It stays in the office till the duplicate is returned to the office when the job is finished.

The duplicate follows the job to the stockroom of the department where the car is being repaired and when the car goes to another department, the duplicate goes to the stockroom of that department. On the duplicate an entry is made on the back, giving the part number, quantity, name, price, etc., of every part,

piece of material or stock used on the job. The entry is made by the stock clerk at the time the part is delivered from the stockroom to the workman, all requisitions by workmen referring to the job numbers. When the job is finished, the duplicate is returned to the office, the prices of the parts added up and transferred to the front of the sheet opposite the heading "material." The addition of "materials" and "labor" will be the total amount that the customer is to pay.

The "materials" items, together with the total and the addition on the front are transcribed to the "original," which is delivered to the customer when he pays the bill and takes the car away.

The instruction card will have duplicated on it the work to be done on the car. There are two stubs which are detachable by means of perforations, one of these being the claim check which is delivered to the customer to identify him when he calls for the car and the other is the "record" which is put in a small box in the office for the purpose of keeping track of the job. The instruction card goes with the car on its journeys through the shop.



# Labor Operations Covering Repair Work on Model T Cars

(Suggested by the Ford Motor Company as a Guide for Dealers and Garages)

The following list of labor operations on the Ford has been compiled by the Ford Motor Co., with the charges that are suggested as being reasonable. Much latitude should be allowed however, circumstances making it necessary to increase these charges by amounts up to 25 per cent. Where the shop is a large one and the work can be routed through the shop along with a similar class of work it is perfectly possible to make a reasonable profit on the prices as listed. Where the shop is a small one, with one,

two or three workmen, each job assumes the character of an individual operation, one man does all classes of work and it is impossible to maintain the speed and departmentization that is so necessary in getting results.

The right way to use this list is to make a careful study of the individual operations and then compare the prices with the average time records for the same operations as performed in your shop. If there is any way to speed up the performance with the limited amount

of help available, then the cost of doing the job may be cut down in this way, but if things are going as fast as it is possible for them to go, then the only other remedy is to adjust the scale to take care of this, still keeping in mind that competition will force you either to pare the price or take business away from you. Aim to give the greatest amount of service possible and still make a profit, but do not do business without a profit.

The prices given in the list are standard at the present time.

## Engine Division

The following charges cover work on cars driven into the service stations:

Operation Number	Labor Charges
1. Overhaul engine and transmission .....	\$25.00
2. Overhaul engine only.....	20.00
3. Overhaul transmission only, or repair or replace magneto .....	14.00
4. Rebraze crank case arms or support or repair leak in case by taking out the engine.....	12.00
5. Install or refit one piston or one connecting rod..	4.50
6. Install or refit two or more pistons or connecting rods .....	6.00
7. Tighten one connecting rod bearing.....	2.50
8. Tighten two or more connecting rod bearings....	4.50
9. Replace transmission bands (Sedans and Coupes, \$1.00 extra) ...	2.75
10. Replace transmission cover gasket.....	2.50
11. Change engine .....	6.50
12. Replace cam shaft, and refit bearings.....	5.00
13. Replace cam gear—large.....	2.50
14. Replace cylinder front cover.....	2.50
15. Grind valves and clean carbon.....	3.00
16. Remove carbon only (This operation to be used only when customer will not permit grinding of valves) .....	1.75
17. Repair cylinder head bolts stripped—one or two..	2.50
18. Repair cylinder head bolts stripped under dash..	5.00
19. Clean out oil feed pipe.....	3.25
20. Replace cylinder head gasket.....	1.00
21. Replace radiator or all three hose connections....	.60
22. Replace one hose connection only.....	.40
23. Replace crank shaft starting pin, or pulley.....	1.50
24. Tighten engine to frame.....	1.25
25. Clean crank case or install gasket under lower cover .....	.75
26. Replace carburetor or manifold—or repair leak in manifold .....	.75
27. Install new butterfly spring.....	.75
28. Overhaul carburetor .....	1.50
29. Repair leaky carburetor .....	1.00
30. Replace commutator wire loom.....	.60
31. Replace commutator case or brush.....	.50
32. Replace commutator pull rod joint.....	.60
33. Replace or rebush fan pulley assembly.....	.60
34. Adjust clutch fingers and trans. bands.....	.60
35. Adjust trans. bands only.....	.40
36. Stop oil leak in valve doors.....	.50
37. Install trans. band springs—each.....	.50
38. Replace cylinder water jacket plug—one or more	.40
39. Install new starting crank handle.....	.50

Operations 5 and 15 combined on one order.....	6.00
Operations 6 and 15 combined on one order.....	7.50
Operations 12 and 15 combined on one order....	6.50
Operations 15 and 17 combined on one order....	4.00
Operations 9 and 19 combined on one order.....	5.00
Operations 10 and 19 combined on one order....	4.75
Operations 30 and 31 combined on one order....	.75
No charge for operation 10 when combined with operation 9.	
No charge for operation 16 when combined with operations 5, 6 or 12.	
No charge for operation 21 when combined with operations 228 or 238.	
No charge for operation 34 when combined with operation 9.	
No charge for operation 21 when combined with operation 14.	

## Parts Brought in or Shipped in for Repairs

55B. Overhaul engine and transmission.....	17.00
56B. Overhaul engine only.....	12.00
57B. Overhaul transmission only.....	4.75
58B. Rebore cylinder only.....	1.75
59B. Rebore cylinder only including refitting of pistons	2.75
60B. Rebore and rebabbitt cylinder including fitting of pistons .....	4.50
61B. Rebabbitt cylinder only.....	1.75
62B. Rebabbitt cylinder, fit crank shaft, and run-in...	2.75
63B. Rebore and rebabbitt cylinder, including fitting of pistons, crank shaft, connecting rods and running in .....	6.00
64B. Rebore and rebabbitt cylinder, fit pistons, valves, push rods, cam shaft, crank shaft connecting rods and run-in .....	9.00
65B. Rebore and fit pistons and valves.....	3.25
66B. Rebore and fit pistons, valves and push rods and straighten and fit cam shaft.....	4.25
67B. Fit pistons, crank shaft and run-in (rebored block) .....	1.50
68B. Rebush three transmission drums.....	1.50
69B. Rebush transmission drums—each.....	.60
70B. Rebush and re-rivet three triple gear assemblies	1.50
71B. Braze crank case arms and supports.....	2.50
72B. Repair crank case drain plug housing.....	2.50
73B. Overhaul and repair carburetor.....	1.25
74B. Disassemble $\frac{5}{8}$ ", 9/16" or $\frac{3}{4}$ " magnets from fly-wheel and install new set.....	.60
75B. Straighten crank shaft.....	1.25
76B. Straighten cam shaft.....	.60
77B. Straighten cam shaft and fit bearings.....	1.25
Operations 71B and 72B combined on one order..	3.75



Note:—When the cylinder block is brought in or shipped in to the Dealer for operations Nos. 58B, 59B, 60B, 61B, 62B, 65B, or 66B, and it is necessary to send the block to the nearest Branch for reboring or rebabbiting, the Dealer may add \$1.00 to the regular charge to cover expense of handling the transaction.

### Rear System Division

The following charges cover work on cars driven into the service stations:

96.	Overhaul rear axle and rebush springs and perches when necessary.....	\$ 7.00
97.	Repair or replace drive shaft tube.....	4.00
98.	Repair or replace one rear radius rod.....	1.50
99.	Replace rear spring tie bolt or new leaf including polishing and graphiting of leaves and lining up of body .....	3.00
100.	Remove front and rear springs, polish and graphite leaves only .....	3.00
101.	Replace spring perches—one .75—both.....	1.25
102.	Pad rear spring to line up body or replace rear spring tie bolt only.....	1.50
103.	Rebush spring and perches.....	2.00
104.	Install universal joint.....	2.75
105.	Straighten axle shaft (without removing from car) .....	1.50
106.	Tighten rear radius rod.....	.75
107.	Install felt and steel washers—one side .75—both sides .....	1.25
108.	Install brake shoes and equalize emergency brakes one shoe .75—both.....	1.25
109.	Tighten universal ball cap bolts.....	.60
110.	Install or tighten rear spring clips.....	.60
111.	Tighten rear hub lock nut—one side .40—both sides .....	.60
112.	Fit new hub keys—one side .50—both sides.....	.75
113.	Replace pull rod supports—one support .40—both supports .....	.60
114.	Replace or rebush hub brake cam—each side....	1.50
115.	Replace rear axle assembly.....	2.50
116.	Adjust pull rods or replace one.....	.75
117.	Straighten rear radius rod (in car).....	.75
118.	Install outer roller bearing—each.....	1.25
119.	Replace rear axle shaft, drive shaft pinion, or drive gear (no other work necessary).....	3.00
	Operations 96 and 99 combined on one order....	7.25
	Operations 96 and 102 combined on one order....	6.50
	Operations 96 and 110 combined on one order....	6.25

The following extra charges should be made for special equipment:

Axle overhaul, when necessary to remove special trunk racks or truss rods.....	1.00
Axle overhaul, when car has shock absorbers and owner will not permit removal.....	1.00
Axle overhaul, when car is equipped with special hub brakes .....	1.50

Parts brought in or shipped in for repairs:

140B.	Overhaul rear axle .....	4.00
141B.	Straighten or repair rear radius rod.....	.60
142B.	Overhaul differential assembly with shafts.....	1.50
143B.	Remove old and press new gear on axle-shaft—each .....	.40

### Front System Division

The following charges cover work on cars driven into the service stations:

167.	Overhaul front axle including rebushing of springs and perches when necessary, straightening and lining up and adjusting of wheels...\$	5.00
168.	Rebush spindle bodies and arms—each side.....	1.50
169.	Replace or straighten front axle (no other repairs) .....	2.50

170.	Rebush spindle body—each.....	1.00
171.	Rebush spindle arm—each.....	.75
172.	Replace broken off radius rod ball cap stud.....	2.50
173.	Replace front spring tie bolt or new leaf, including polishing and graphiting of leaves.....	2.50
174.	Replace front spring or tie bolt only.....	1.50
175.	Install or tighten front spring clips—one .40—both .....	.60
176.	Tighten radius rod or steering gear ball cap.....	.60
177.	Replace radius rod .....	.75
178.	Straighten front radius rod and line up front assembly .....	1.00
179.	Replace spindle arm or body and line up assembly .....	.75
180.	Replace radius rod ball cap with new style.....	.60
181.	Tighten all sockets and joints of front end.....	1.25
182.	Replace or straighten spindle or steering gear connecting rod .....	.60
	Operations 167 and 172 combined on one order..	6.50
	Operations 167 and 173 combined on one order..	6.50
	Operations 167 and 208B combined on one order..	6.50

The following extra charges should be made for special equipment:

Overhauling front axle when bumpers, special radius rods, and such devices are used.....	1.50
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Parts brought in or shipped in for repairs:

202B.	Straighten front axle.....	1.50
203B.	Straighten radius rod .....	.60
204B.	Install stud in radius rod.....	.75
205B.	Rebush spindle body and arm.....	.75
206B.	Rebush spindle arm.....	.40
207B.	Rebush spindle body.....	.50
208B.	Rethread front axle by drilling out and bushing..	2.00

### Chassis Division

The following charges cover work on cars driven into the service stations:

#### Front End and Frame

228.	Replace front cross member.....	\$ 6.00
229.	Replace front cross member when radiator is off .....	5.00
230.	Straighten front cross member (without removing from car) .....	3.00
231.	Replace rear cross member.....	7.50
232.	Replace side member or frame.....	20.00
233.	Install engine pans—one .75—both.....	1.25
234.	Tighten engine pan .....	.60
235.	Tighten crank case front end bearing cup.....	1.00
236.	Install hood clips or springs on hood board—each side .....	.60
237.	Free up hand brake lever.....	.60
238.	Remove radiator to replace radiator stud or tighten fender brackets—each or both.....	1.00
239.	Replace starting crank ratchet pin.....	.60
240.	Replace starting crank or sleeve.....	1.25
241.	Install running board bracket.....	2.50
242.	Repair hand brake lever assembly including replacing of pawl.....	1.00
243.	Replace hand brake lever, quadrant without removing running board shield.....	1.25
244.	Tighten all bolts and nuts on car.....	3.00
245.	Tighten body bracket bolts.....	1.00
246.	Install tail lamp bracket.....	.60

#### Fenders and Running Boards

258.	Replace one fender or running board (.25 extra when necessary to straighten iron or bracket) .....	.75
259.	Tighten all fenders, running boards, shields and truss rods—one only .40—.....	1.75
260.	Remove fender or running board and straighten..	1.00
261.	Replace running boards shield—one \$1.25—two..	2.00
262.	Install fender-to-shield bracket—each.....	.60
263.	Install metal tool box.....	.75
264.	Replace rear fender iron.....	.75
265.	Replace truss rods—one rod .40—both rods.....	.60



## Dash

276.	Replace dash .....	4.50
277.	Replace dash when engine is out .....	1.50
278.	Tighten dash bracket to body and dash .....	1.25
279.	Replace coil and install Yale lock .....	1.50
280.	Replace coil, install new switch on coil box or repair the box .....	.60

## Steering Gear

291.	Overhaul steering gear including replacing of quadrant or gear case and rebushing of bracket .....	3.50
292.	Overhaul steering gear when engine is out .....	2.50
293.	Tighten rivets of internal gear case .....	1.25
294.	Tighten at dash and rebush bracket .....	1.25
295.	Replace wheel or spider .....	.60
296.	Tighten at dash and post .....	.75
297.	Replace steering gear assembly .....	3.00
298.	Rebush bracket only .....	.75
299.	Tighten steering gear case cover .....	.75

## Muffler

310.	Change long exhaust pipe .....	.75
311.	Replace muffler .....	.60
312.	Repair muffler .....	1.00
313.	Repack exhaust pipe pack nut .....	.60

## Gas Tank and Line

323.	Repair leak in Touring Car gas tank .....	1.50
324.	Repair leak in Touring Car gas tank (when necessary to remove body) .....	6.00
325.	Clean sediment bulb, gasoline feed line and drain carburetor .....	.75

## Hood

336.	Straighten hood .....	1.00
337.	Install hood leather .....	.60

## Radiator

348.	Overhaul radiator (requiring 4 to 7 hours' time) .....	7.50
349.	Install new core in radiator .....	6.00
350.	Repair radiator, solder one or two tubes and replace one or both sides .....	4.00
351.	Solder neck or top tank or repair without removing from car .....	1.00
352.	Solder casting to lower or top tank when necessary to remove radiator .....	1.50
353.	Replace broken pet cock .....	.60

## Wheels

365.	Change hub, rear or front .....	1.25
366.	Replace wheel and tire—each .....	.75
367.	Adjust and dope front wheels .....	.60
368.	Remove front wheels and replace bearing parts—one wheel .75—both .....	1.25
369.	Line up front wheels (when necessary to replace spindle arm .60) .....	.40
370.	Oil and dope car (including material) (Graphiting springs in car .75 extra) .....	.75

## Paint Division

391.	Repaint and revarnish chassis only .....	\$12.00
392.	Repaint and revarnish car—Touring or Runabout .....	25.00
393.	Repaint and revarnish Coupelet .....	35.00
394.	Repaint and revarnish Sedan .....	45.00
395.	Repaint and revarnish body only—Touring or Runabout .....	15.00
396.	Revarnish body only—Touring or Runabout (on chassis) .....	5.00
397.	Revarnish body only—Sedan or Coupelet (on chassis) .....	12.00

398.	Refinish deck on Torpedo Runabout .....	1.50
399.	Refinish fenders, dust shields, running boards, wheels, or hood off car—each .....	.75

## Body Division

411.	Tighten all doors .....	\$ 1.25
412.	Install new lock—Touring or Runabout—each .....	1.00
413.	Replace Town Car or Sedan door lock .....	1.50
414.	Replace tops irons—each .....	1.00
415.	Install new leather on door panel—one .60—two .....	.75
416.	Install new leather on arm rest .....	1.00
417.	Patch section of upholstery .....	1.00
418.	Re-upholster Touring body (using new material) .....	10.00
419.	Re-upholster Runabout body (using new material) .....	6.00
420.	Change closed body .....	8.00
421.	Change Touring or Runabout body .....	5.00
422.	Take dent out of any side panel .....	4.00
423.	Take dent out of any side panel and refinish .....	6.00
424.	Take dent out of door .....	2.00
425.	Take dent out of door and refinish .....	3.00
426.	Take dent out of rear or corner panel without removing from car .....	8.00
427.	Take dent out of rear or corner panel and refinish without removing from car .....	10.00
428.	Take dent out of rear or corner panel (when removed from car) .....	13.00
429.	Take dent out of rear or corner panel and refinish (when removed from car) .....	16.00
430.	Take dent out of Torpedo deck and refinish .....	2.00
431.	Repair front or rear seat cushion .....	2.50
432.	Replace binding on one or more doors .....	.75
433.	Put on new trim rail .....	2.50
434.	Replace door hinge .....	.75

## Top and Windshield Division

455.	Overhaul Touring Car or Torpedo top including re-covering, lining-up and fitting of curtains .....	\$ 7.50
456.	Replace top deck or side quarters—each or both .....	4.50
457.	Line up and dress top .....	2.00
458.	Install and fit top .....	1.25
459.	Repair tear in top up to 4" .....	1.00
460.	Replace front or rear bow—Touring or Runabout .....	2.50
461.	Replace center bow—Touring or Runabout—each .....	1.25
462.	Patch small pin holes .....	.60
463.	Patch hole in curtain or replace celluloid .....	.60
464.	Replace back curtain .....	1.50
465.	Replace celluloid in back curtain .....	1.75
466.	Refit complete set of side curtains .....	1.50
467.	Refit one side curtain .60—two .....	.75
468.	Replace top bow socket—Touring or Runabout .....	1.25
469.	Replace windshield—and line up windshield frame .....	1.00
470.	Replace windshield glass upper .....	.60
471.	Replace windshield glass lower .....	1.00
472.	Replace hinge .....	.60
473.	Replace or tighten dash clips and hinge screws .....	.50
474.	Pack windshield glass or take out rattle—each .....	1.00
475.	Replace windshield bracket .....	1.50
476.	Repair windshield lower frame—and install glass .....	1.75

## Lamp and Horn Division

502.	Replace or repair electric headlight switch .....	\$ .60
503.	Straighten damaged headlamp .....	1.25
504.	Take dent out of head lamp door frame and replace glass .....	.75
505.	Clean up and repair set of oil lamps .....	1.00
506.	Install electric horn and wire .....	1.00
507.	Install electric headlights and wire .....	1.50
508.	Install new parts in oil lamps—each .....	.60
509.	Take short-circuit from switch or lamp .....	.60

## Special

530.	Tow-in—per mile (each way) .....	\$ .50
531.	Start-up (Add for each additional mile .15) .....	.60



No. 5301

**REPAIR ORDER**

MONTH / DAY / YEAR

Deliver to \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

Motor No. \_\_\_\_\_

Charge \_\_\_\_\_

License No. \_\_\_\_\_

Time Promised \_\_\_\_\_

Type \_\_\_\_\_

INSTRUCTIONS

SALE AMOUNT

Strictly Cash

TOTAL LABOR ONLY

MATERIAL

TOTAL AMOUNT

**ESTIMATES ARE FOR LABOR ONLY--MATERIAL ADDITIONAL**

You are hereby authorized to furnish all the Necessary Materials and labor to make repairs as above.

(INSTALLED BY THE DENVER SALES BOOK CO., DENVER, COLORADO 8034)

This Work Authorized By : \_\_\_\_\_

Date Completed \_\_\_\_\_ MM \_\_\_\_

Received By \_\_\_\_\_

(OWNER)

OFFICE COPY  
ORIGINAL

THIS FORM CARRIED IN STOCK BY DENVER SALES BOOK CO.

Fig. 1—(left) The original repair order which is kept in the office until all the work has been completed on the car

[illegible]

### Segregation of Work

Ford service work is highly specialized and with few exceptions any one operation is the same on every car. It is a great advantage, therefore, to segregate the work in the shop so that certain men specialize on certain jobs. No actual apportionment of the work can be given unless the size of the shop is known, but the following schedule of men and duties for a force of 12 men may be easily enlarged or contracted to suit conditions:

*Fig. 2—The duplicate forms the customer's invoice and this is kept in the various stock rooms near the car, all materials being entered up on the back as used*

Service Manager	{	Cashier—Takes care of office work, adding up bills, receiving and paying out cash, etc.		
		Tester—Receives cars at door, determines troubles, makes out repair orders and delivers finished cars to customers		
		Shop Foreman	{	1 man for bearings, pistons and cylinder work
				1 man for transmissions, tearing down and assembly
				1 radiator man for soldering, welding and brazing
				1 rear axle man.
				1 painter and trimmer
				1 helper
		Stock Clerk		
		Porter		

at the top floor and end on the ground floor. If the building is all on one floor, start at one end and finish at the other.

### Disposition of Old Material

The old material that is removed from the cars during the various repair operations is all saved. Each department should be provided with at least two large boxes mounted on castors. One of these is marked SALVAGE BOX and the other JUNK BOX. These boxes are shown in Fig. 6.

The salvage box is to receive all parts which are fit for use again after having

It is not necessary to adhere rigidly to the schedule, because when work slackens up in any department, one or more men can be shifted to a busier department or some of the men can be set to work reclaiming parts and salvaging material.

### Arrangement of Departments

As far as possible the departments for the different classes of work should be separated and should be progressive so that the car keeps moving in the same direction and does not double on its tracks from the time it enters the shop till it leaves. If the building has a number of floors, a good routing is to start

[illegible]

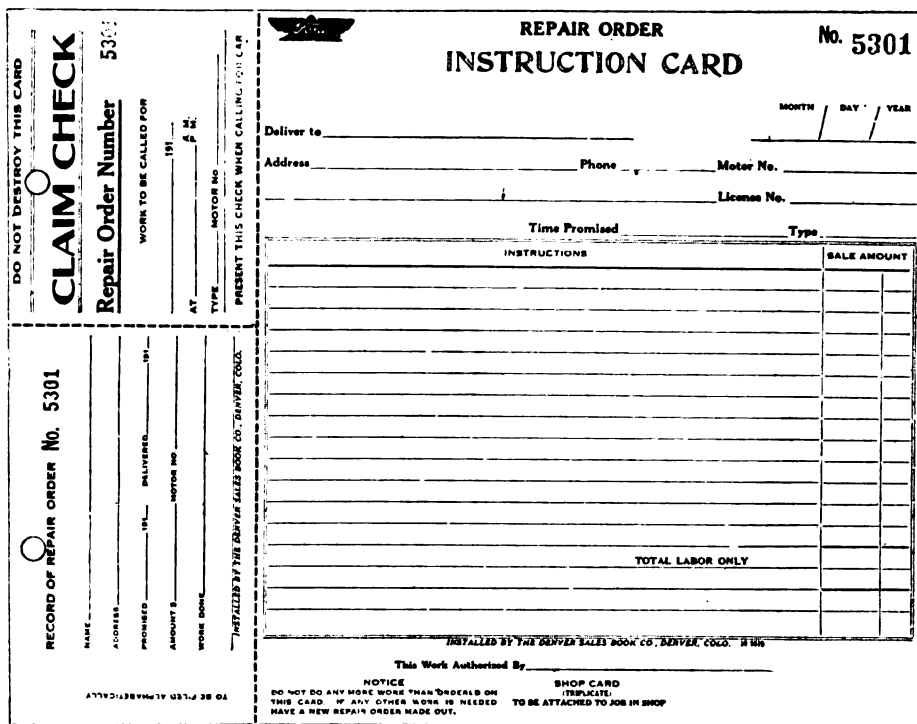
*Fig. 3—Reverse side of the original and duplicate shown in Figs. 1 and 2.  
These reverses are identical*



A cotter-pin box is shown in Fig. 7.

### 1—Removing the Engine From the Car

**B—Drain the radiator into a bucket.** If the water does not run out freely when the petcock is opened, stick a wire up through the opening to break up the mud and sediment. If the petcock will not turn after applying reasonable pressure, loosen the screw a half turn if it is in position to make this possible and tap the screw lightly. The key in the petcock



13—Remove the locking wire from the crankcase front-bearing screws and start the screws out with a 7-16-in. open-end

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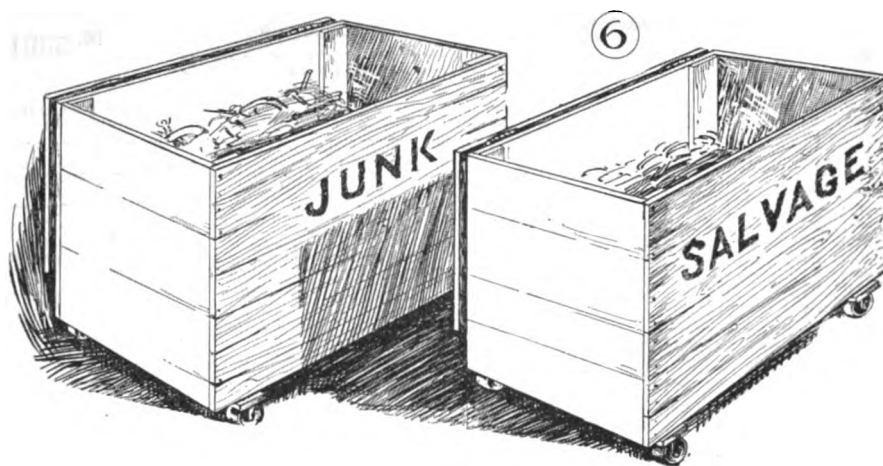


Fig. 6—The junk and salvage boxes are mounted on castors and have hinged lids

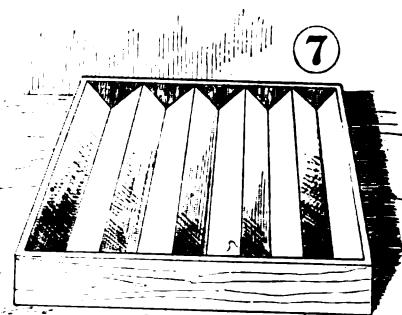


Fig. 7—This is a cotter-pin box made of wood with V-shaped compartments to hold the different size cotter pins. One of these boxes is placed in a handy position near every workman who has need for new cotter pins

wrench, turning them out with a 7-16-in. speed wrench after they are loose enough.

*J—Remove the cotter pins from the four crankcase-arm bolts, two in the side and two in the top.*

*K—Remove the side nuts with a 3/8-in. end wrench.*

*L—Remove the top nuts with a 3/8-in. speed wrench, holding the bolts with an end wrench both here and in operation K.*

14—Remove the four nuts from the manifold-clamp studs with a 3/8-in. speed wrench.

15—Take off the clamps.

16—Lift off the intake manifold complete with the carbureter. Slide it straight out and then lift up to avoid spoiling the copper-asbestos gaskets. Hang the gaskets on a nail on the parts box.

17—Lift off the exhaust manifold, pulling the pipe straight ahead out of the muffler head. The manifold does not have to be disconnected from the exhaust pipe and the pack nut does not have to be touched. If it should be necessary to separate the manifold from the pipe, the pack nut is best loosened with a pack nut solid wrench before the clamps are loosened, as these clamps hold the manifold much better than it could be held in a vise and there is no danger of cracking the manifold or denting the pipe.

*M—Remove the cotter pins from the crankcase bolts.*

18—Loosen those bolts which clamp the engine pans. This is done with a jew wrench or a speeder on the nut and a knee wrench on the head of the bolt underneath. Either of these tools allows the bolts to be loosened or taken out by one man. See operations under "Taking the engine down" for more complete details on this operation.

19—Remove the stove bolts and nuts that hold the engine pans to the frame and then take out the pans. The right pan is to be placed in the parts box, but the left pan cannot be taken off entirely unless the steering-arm connection is taken off, but it can be slid down out of the way and left hanging on the steering arm.

20—Remove the two bolts, two nuts and two cap screws that hold the universal-joint ball housing to the crank-

### The Next Installment of MODERN METHODS IN FORD SERVICE

Will Appear in Next Week's  
Issue

*It will deal with taking down the engine, testing the crankshaft and re-babbiting the block. This will be followed by instructions for burning in the bearings, overhauling the other parts of the engine and transmission, etc.*

*The entire series will cover all parts of the car.*

case, first taking out the locking wire. Use a 3/8-in. end wrench or long speed wrench from the rear of the car.

*N—Take out the two cap screws that hold the front-radius-rod ball cap to the engine.*

This breaks the last connection between the engine and chassis and the engine is now ready to be taken out. But the dash must first be loosened to allow the crankcase arms to come forward. This is done by removing the bolts from the angle irons.

There are several methods of lifting the engine out of the frame, the best one being with a pair of tongs and a chain hoist.

A pair of tongs grips the cylinder block at a point between the third and fourth cylinders. The tongs are hung from a chain hoist or tackle and will grip the engine without danger of falling as the heavier the weight, the harder the tongs grip. This is shown in Fig. 8.

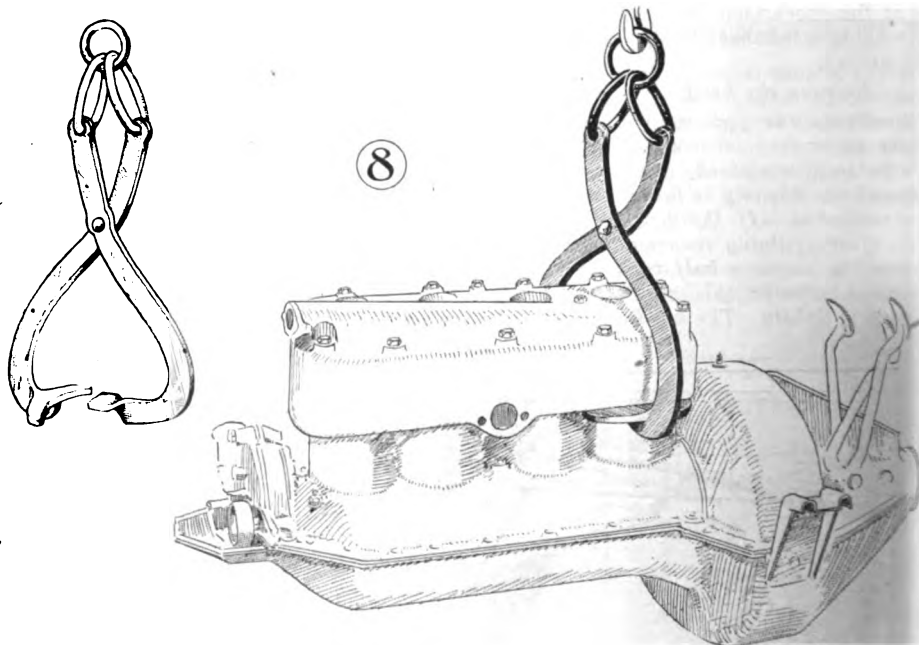


Fig. 8—This illustrates the method of lifting the engine out of the chassis with the special tongs. The correct position for the tongs to properly balance the engine and transmission is shown



# Eight Rules for Success

## *That Built a Big Business from a Little One*

**I**N the fall of 1915, two young foreigners, both under 30, located in the city of Spokane.

They were "green;" they spoke English with a marked foreign accent; they had but little capital and did have plenty of grit, a determination to get along combined with a thorough knowledge of battery work and automobile electrical work.

These two boys, for boys they were, whose names are Otto J. Goeppinger and C. D. Rinke, formed a partnership, leased a little shop in a hole in the wall on Sprague Avenue with a 12-ft. frontage and a small shop about 18 ft. deep in the rear, and adopted the name Washington Magneto Exchange.

The first six months were months of struggle, hard work and many disappointments, but they stuck. Each partner worked early and late into the night. They did, personally, all the jobs that came, they had no leisure for amusements, and what little time was not spent in overalls was used in studying and mastering the English language.

During the first three months the total monthly business of the firm did not average \$200. Then gradually a change for the better came. At the end of the fiscal year the turnover was averaging \$500 a month and two employees were placed on the payroll.

Early in 1917 the partners incorporated and moved to larger quarters, and in another year had so increased the volume of business that another change became necessary and negotiations entered into for the erection of a new building.

The company is now doing a business exceeding \$50,000 a year, it occupies

its own building on Madison Street and has 13 employees on its payroll.

How was it done? Goeppinger, president of the company, attributes the success to eight rules which have been followed, and they are as follows:

*First*—Work hard, don't be afraid to don overalls, and don't spend money before it is earned.

*Second*—Advertise. We use circular letters, local and country newspapers, trade journals and keep our name continually before the public, by bill-boards and theatre curtain advertising.

*Third*—Handle only nationally advertised goods, and several exclusive distributing contracts if possible. Our lines are Westinghouse electrical system, Atwater-Kent products, Eisemann magnetos, Klaxon horns and Exide and Eveready batteries, and we are backed by the national advertising of the companies.

*Fourth*—Give every customer service and charge a reasonable price for it.

*Fifth*—Satisfy customers, avoid mistakes, but if they do creep in rectify them.

*Sixth*—Don't knock your competitor or competing lines. Sell every article on its merits; keep every promise made.

*Seventh*—Don't get the idea that YOU KNOW IT ALL. We learn something new every day and we never stop studying and planning.

*Eighth*—Read trade papers, and especially MOTOR WORLD.

### Get the Cash

"**P**UT your shop on a cash basis," says Starr. "All it takes is a little nerve. Last June I figured up and found



OTTO J. GOEPPINGER

*President and General Manager of the Washington Magneto Exchange*

I had \$11,000 on my books in open accounts for repair jobs, and at the same time I was paying interest at the bank. It didn't look good to me to be paying a premium just for the privilege of charging repair items. So I decided to reform right there and then, and I did.

"That sign: **ALL REPAIR WORK STRICTLY CASH**, went up over the door and ever since it has meant just what it says.

"Sure, I had some kicks. A good many of my customers beefed a lot when I cut off their credit, and for the first month or so my shop work fell off alarmingly. However, it's bigger than ever now and there isn't a kick nor a whimper.

"And I noticed another funny thing. In the old days when I gave credit on repair work the very men I accommodated in that way were the men who were never satisfied with what the shop did. I'd do an engine overhaul and until that bill was paid that owner was everlastingly coming around here and complaining that I'd done a poor job and make demands for additional tinkering. Now, a job is paid for when it's done and that ends it. The customer has bought something and there are no more kicks or whines. Get on a cash basis—it's worth while."

### You Are the Chooser

We carry a dozen each of four kinds of spark plugs—nine times out of ten the customer will take one of these kinds; he's willing to try one we say is good.—Santa Fe Trail Garage, Kansas City.



*The New Building of the Washington Magneto Exchange*



# Sitting in the Office Won't Sell Tractors

*That's What Vogler Says, and He Has Tried It—Now He Gets Out and Hustles*

**I** FIND that it is impossible for a concern to attempt the placing of tractors successfully unless the organization is acquainted with the manner in which they are to be put in use and the conditions confronting them in placing them successfully.

This cannot be done by the manager of a concern sitting in his office and directing subordinates without first becoming himself, through actual experience, fully acquainted with conditions.

With that idea in view, I went out in the field myself, thereby running up against actual conditions. I saw that the demonstration was properly staged and everything in working order before the prospect was shown the work of the tractor.

During these times in the field I learned that soil conditions had everything to do with the proper showing of the work of the tractor and the plow. I learned that it was impracticable for a dealer to guarantee his tractor or plow to do anything satisfactorily except under certain conditions.

## How It Was Done

We have been successful so far in introducing the Happy Farmer, and it was done in this manner:

We fitted up three trucks, suitable for carrying a tractor and a plow. We then picked out some point at which we desired to make a demonstration, advising the different automobile agents of that territory that we were going to be there on a certain day, and asking them to arrange for a piece of ground on which to demonstrate.

We arrived at the time specified, set up our plow and then called on our agents and their prospects to view the work we were doing. Our object was the placing of agencies, rather than selling the tractor direct. This is made necessary from the fact that we have a big territory and could not handle any of our business direct.

Through the work of this kind, we have been able to interest over 95 per cent of the agents we have demonstrated to and in every case sold our demonstrator—and in many cases taking orders for carloads for future shipments—or if near our distributing point, took orders for two or three extra tractors and plows to be delivered.

Our records show that during the first 30 days we have delivered nearly 50 tractors and plows.

Now, this result has not been brought about by sitting in the office.

The writer hopes by next season that he will have demonstrators and salesmen enough to cover our territory without

being in the field himself all the time, but the experience gained so far has been inestimable in handling field forces.

## Need Experience in Field

This condition cannot be had any other way except by actual experience in the field and I want to say this—when I say "in the field" we were not there at 9 or 10 o'clock in the morning, but we were there ready to work at 7 o'clock, and you know what that means in the way of getting up, having breakfast, and out in the fields by that time. And when we were there we were not dressed in store clothes. We had on real "honest to God" working clothes—ready to take a hand ourselves whenever it was required.

During my visit in the fields, I saw a competitor riding around in an automobile with store clothes on, with the regulation white collar, catalogs under arms, and prospects up in a corner—telling them that he represented the best tractor in the world, which would handle any plows, anywhere from three bottoms up.

In fact, all the prospect had to do would be to write a check for his tractor and the work was done. In the three or four weeks that I was out in the field, I failed to find where one of these birds closed an order—they may have done it, however.

## Liberal Commission Necessary

I have also learned a lot of conditions that go with the successful placing of tractors that make it absolutely necessary that the agents be taken care of in the way of a liberal commission. Unless this is provided for, as far as the financial end is concerned it will be a failure. This must be allowed to take care of the service that must go with the placing of a tractor before a public unaccustomed to the operation of these machines become satisfied owners.

As soon as we have placed an agency, we take charge of the agent's service man and drill him in the operation and the taking care of the tractor. We believe this is going to pay us in the end, although we do not see much of the results during this period, particularly in the financial end.

A sour, rainy season will start now in a week or so. We do not know what success we will have in placing tractors until after the rainy season is over, which will be some time in the coming March or April.

The financial part of it seems to be taken care of much easier than either the truck or the passenger car. The country

banks seem to stand ready to finance a tractor when they would look with positive disfavor on the financing of a passenger car or truck.

In the last town I visited I had shipped into this territory a couple of tractors and plows. I invited all the automobile dealers and the implement dealers out to see the work. As the implement dealer was the best fixed financially in the town, I naturally tried to interest him in our tractor.

I failed to do this for two reasons given by him—one was that he represented a tractor now and the other was that he did not care to be burdened by the service that the sale of a tractor required. In other words, he would rather stay with the farm implements, such as plows, harrows and drills—which after they were sold required no service.

## Poor Salesmanship Here

I found out from him that he had been representing the tractor he mentioned for nearly two years, and in that time had sold just one. I was in there three days, sold one tractor and took deposits on two others to be delivered.

In the territory that I have just covered, it has been little less than criminal the service that has been given by tractor agents. The rancher is sold the tractor and allowed to shift for himself. He is not told the use of the plows, nor the best he can get out of the tractor. The result of it is that neither his tractor nor his plow is doing the work it is capable of doing, and would do if properly handled, and the tractor business gets the worst of it.

My company is maintaining a service department, and of the fifty tractors we have put out in the last six weeks we have yet absolutely one complaint to come from the users. They have no complaint coming, due to the service we are giving them. This can only be done by an allowance of such a commission as will allow us to give the service that is absolutely necessary.—Northwest Auto Company, F. W. Vogler, president, Portland, Ore.

## Union Mechanics Want Increase

BLOOMINGTON, May 31—Union mechanics employed by dealers here have filed a demand for an increase in pay from 55 cents per hour to 75, and, in addition, seek a closed shop, permitting only members of the union to be employed. Most of the dealers feel that prices asked for repair work are about all that the public will stand and, it is expected, no increase will be granted, while a closed shop will not be considered for an instant.



# Expect Less and Get More from Your Tractor

## THE THIRD OF FOUR ARTICLES

On: *Tractor Selling*, by C. L. Butler, president of Butler-Veitch, Inc., Oakland, Cal., distributor of Fageol products

By C. L. Butler

## Why This Story Was Written

**E**DITOR Motor World: We have followed with interest the three articles by Clyde Jennings: "Why the Man Who Is Going to Sell Tractors Should Know Them," "Why the Man Who Is Selling Tractors Should Know Them" and "Why the Man Who Has Sold Tractors Should Know Them."

We know every man who is selling farm tractors will benefit by reading these articles. We have, and we are making it a point to see that this series of stories is read by each of our dealers.

However, no matter how well informed or how capable the dealer may be, the greatest problem is

still to pass on a portion of his information to the purchaser. We have found that practically all of recent tractor troubles can be traced to lack of tractor education on the part of the user. The dealer may be directly responsible for this, but in an effort to aid him in this educational work, we have prepared the enclosed articles.

We believe they may help other dealers as they have helped ours, and with this in view are submitting them to Motor World with the hope that they may be of some use in the near future. Very truly, Butler-Veitch, Oakland, Cal., Lloyd Veitch.

**B**Y taking a short cut off the line of least resistance we can speed up the success of the farm tractor. The same goal may ultimately be reached by simply letting the farmer find the facts for himself, from his own observations, but it is a tedious—yes, dangerous—process. There is the possibility that his findings, if gained without instruction, will be too bitter and he will turn his back on tractor benefits. Tractor manufacturers should not run the risk of letting him go this hazardous way unguided. We can bring the tractor into its own by producing the plain and unadulterated facts and insisting that every user get them before he gets his tractor. The most unsatisfactory buyer in the world is the farmer who expects too much. His tractor so purchased is bound to be a liability to himself and the company that built it. It makes no difference how good a machine may be, if the farmer thinks it should be better he will not be satisfied—and unsatisfied he is a liability on the books of the tractor agent. The mistake made is in permitting the farmer to expect too much. To-day's sales may come easier—they may be even forced to greater increase by fanning the already high hopes of the buyer by a little sales eloquence. It's a crime. There will be a morning after.

It is not sufficient to leave out the untruth—and the Lord knows George Washington's blue pencil would shorten most of our statements. It is vital that

we go farther and tell the truth—and most of us unfortunately must first learn it. Our job in this tractor industry—our short cut off the line of least resistance—is to conscientiously learn the facts and then rush them forth to the farmer. We cannot talk too loudly nor too eloquently about the facts—provided they are the real facts and not distorted. My mother used to tell me to always tell the truth, but that I need not turn myself inside out to do it. I'll go her one better—I'll say to the tractor industry, "Until the truth becomes better known about the tractor, turn yourself inside out to tell it." The farmer must be convinced, in spite of himself, that a tractor motor must be measured in revolutions, not years, and that a tractor will pull so many pounds at the drawbar—not necessarily so many plows. We can best serve the farmer by teaching him to serve himself. And he will only be able to serve himself when he recognizes these facts about his tractor.

### Pull at the Drawbar

Let's take this matter of pull at the drawbar. After all is said and done that is all the tractor man has to sell—and if it costs too much he won't be able to continue selling it. Most tractors are sold to pull so many plows. "Capable of pulling two 14 in. plows at all times: three 14 in. plows under favorable conditions." You have all seen similar statements. Outside of the fact that it

gives the farmer a wrong impression, it is quite a liability for any manufacturer to set up. The owner may take it too literally—and his lawyer insist that the agent live up to what is practically a guarantee. There are too many factors to be considered to encourage such statements from a cautious industry. We are selling drawbar pull and we had better distinguish between salt grass and loose loam.

The farmer must realize that the biggest part of making the tractor a success lies with him. The industry should do all in its power—in its advertising and in its sales policy—to let him know it. He is buying drawbar pull—which in itself will vary greatly in relation to the traction available—and drawbar pull may mean three fourteens and then again it may not be enough for one. The lay of the land, the soil, the growth in it, the suitability and condition of the plows, the hitch—they are all important factors. Any one may change the pull two or three hundred per cent.

When the agent sells a tractor he invariably turns it over to the farmer to pull so many plows on his ranch. Probably he took his demonstrator out and did a little plowing. Of course his plows were suited for his tractor, his shares nice and sharp, his hitch just right. That is all in order. A man would be a sucker to drag a dead load on a demonstration. But when he left the tractor, did he leave a word of caution with it? Did he build up a defense



for the change of conditions—tell the farmer that it would take him a long time to run things as smoothly? Perhaps you, as a tractor agent, can remember the time it took and the grief you had getting your plows lined up to give real service and to turn the land with a minimum pull on the drawbar. Why not get the farmer ready for the same grief? He is going to have it—sure. Whether or not he has the patience to tolerate it is up to you. He will if he anticipated it and it is up to the dealer to get his mind right. It takes time—even for experts—to adjust a plow properly behind a tractor.

The day the farmer gets his tractor he hooks on to the old plow he was using with his horses because the new one for the tractor hasn't come. Most likely it is too heavy a load. He bought his tractor to pull 3 twelves—furthermore he can't understand why it won't do it. If he had a drawbar scale—could see that the tractor was pulling every ounce it was supposed to pull—he might feel better. But in his mind 3 twelves are 3 twelves. The horses pulled it, why won't the new fangled traction do it too? So long as he starts that way there is trouble ahead. He bought the tractor to pull the bottoms—but he

makes no allowance for the fact the hitch may double the load he is pulling. Most old style horse drawn plows are anchors behind a tractor. This little incident made him sore—had he recognized the difference in the pull he might have felt better.

Next he gets the new plow. He hooks it up after considerable trouble and away he goes—ready to forget and forgive. And again the tractor only handles the load with unquestioned effort. This time the scar on his patience is pretty deep—new plow, nice and sharp, traction good, soil in perfect shape—what's the use? But he overlooked the fact that the plow didn't set quite square with the pull. Here again he was disgusted because he recognized no difference between plow bottoms and drawbar pull. He would have been all right if he could have seen a drawbar scale and realized that even so little a thing as an off line pull may double the work.

It is always that way. There may be nothing the matter with the tractor, but the load is not right. There is not one farmer in a dozen who can understand why his tractor stalls on a little morning glory patch or a bit of Bermuda. His horses always walked through it. True, they leaned into the collar, but they never

stalled. Right there is the difference. Drawbar pull with horses can be very greatly increased for an instant. They can "lead in" through a tough place, but they could not carry the load that way all day. The tractor is not quite so flexible, although it can take its proper load on the drawbar for day after day without complaint. It is up to the man selling the tractor to let the farmer in on this secret—if the pull is too great the tractor won't pull it, regardless of whether it is three bottoms or only one. And the difference in pull in a single round, even on an apparently uniform field, is very marked.

If the farmer hopes to have success with his tractor, he must have the patience to get things right and the ability and determination to keep them right. If he understands and properly cares for his tractor, it will always pull its load in pounds on the drawbar. If the implements are suited for the work, kept sharp and in condition and properly attached the work will go on without any grief. The operator is 60 per cent. of the success of his tractor.

The tractor sales policy that educates its salesmen and its owners to expect less and know more of their tractor will be the first to cross the line a winner.

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## If They Could Do It, You Can Do It

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WHEN the government began putting the screws on the motor car industry through war necessities, many dealers saw only the black clouds on the business horizon. But not all of them. George B. Kimball and F. A. Ordway, who market the Hudson and Essex cars at Boston and have built up a big business through far-sighted efforts, sat down one day and talked things over. They had some ideas which needed to be developed. They figured out that their overhead would be as large as ever; that they had a permanent investment to take care of; that the war would be over some time; that their work was to sell to motorists.

### Why Not Have Cars Repainted?

Why not have Hudson owners have their cars repainted as long as they could not get new machines? Why not have it done by the Hudson agency? Why not start about it in a thoroughly practical manner to give first class work? These questions were answered by getting the best boss painter that they could secure. Next they fitted up a department under his supervision with first class materials. Then they told him to secure only the best painters available.

Next letters were sent to Hudson owners advising them that they could be assured of having their cars repainted at the Hudson service shop in as high class a manner as in the places where

such work was made a specialty and that the prices would not be exorbitant.

In came the cars.

The Hudson service station had a reputation among motorists of being one place where a person could be sure of actualities, not promises.

And very soon there was a waiting list. The painting department turned out first class work and owners began to tell about it. Mr. Kimball and Mr. Ordway soon found out that customers were willing to pay a good price for thoroughly first class work. And many of the Hudson owners ordered repairs made while the bodies were being repainted. The company turned out several hundred repainted cars last year and is never idle.

IT WAS A FIRST CLASS INVESTMENT AND THE DEPARTMENT WAS ON A PAYING BASIS FROM THE START, PLUGGING UP ONE OF THE HOLES IN THE OVERHEAD EXPENSE.

AND EVEN WHEN THE GOVERNMENT HAD ISSUED ITS NOW FAMOUS 100 PER CENT WAR ORDER THAT SEEMED TO MEAN THE END OF SELLING CARS FOR 1918 THEY CONTINUED THEIR REGULAR SCHEDULE OF HUDSON DISPLAY ADVERTISING.

### Sell Accessories

Next the two men turned to accessories. And a department was added to

sell these things. Like the painting department it was started along first class lines. One of the most experienced salesmen was put in charge of it. The stock carried was complete. And through letters to customers a nice business has been built up which is paying a good profit.

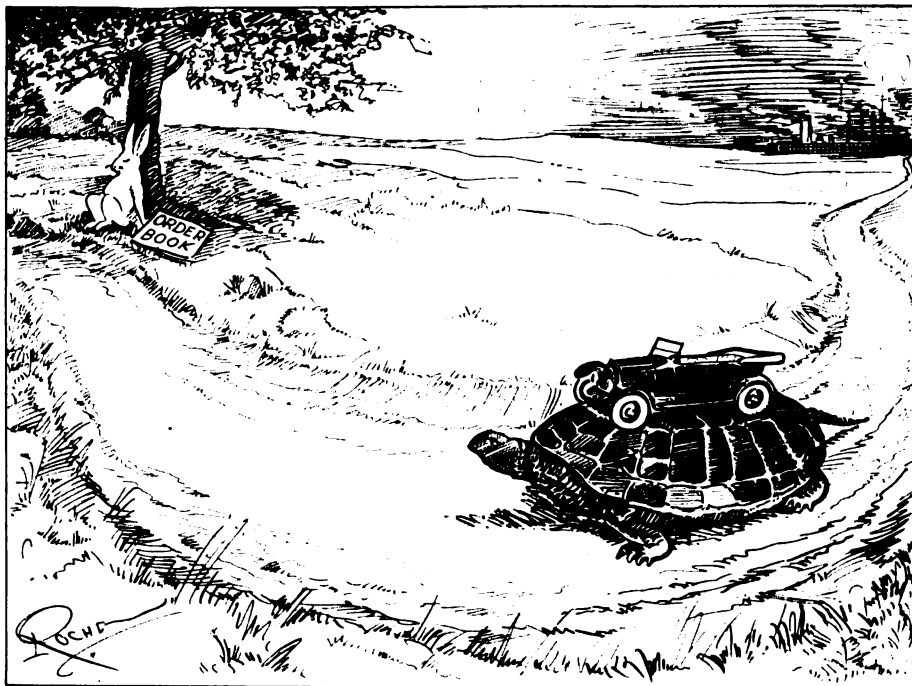
Now that the war is over these two departments will not be neglected. So in addition to the regular lines of cars there is the added income, which began as a plan to try to make both ends meet and which now will materially add to the profits.

Mr. Kimball and Mr. Ordway were optimists all the time, and when the clouds seemed darkest they were ever cheerful, working on war drives, Liberty Loan committees, etc.

### Schwab Returns to A-W Top

NEW YORK, May 31—At a special meeting of the directors of the Adams-Williams Mfg. Corp., maker of A-W convertible tops, F. C. Schwab, who resigned as president when entering the service, was re-elected president. S. H. Crittenden, who also returned from service recently, was elected vice-president. Leo W. Schwab was re-elected secretary and treasurer. Plans have been completed to enlarge factory space and to greatly increase production during 1919-20.





# KEEP RIGHT ON SELLING

*Even If You Have No New Cars to Deliver*

By Ray W. Sherman

"WELL," said Tommy Trumbull, sales manager for C. J. Reilly, Inc., as he walked into the office and flipped his hat onto the desk, "the last one's gone. Just rolled her out the door."

"Sold out, eh?" said Reilly.

"Clean as a whistle—all dressed up and no place to go." Wherefore Tommy sat down in his chair, put his feet on the desk, drummed a cigarette on the back of his hand and blew into the air a cloud which both he and Reilly wished might be materialized into a flock of new cars.

"Well—" and Reilly put his feet in a drawer and studied Tommy's smoke effort.

"What'll we do next?"

"Gosh—keep right on selling, I guess," replied Reilly. "What else is there to do?"

"Sell what?" demanded Tommy.

"Yes, what?" repeated Young Roper, who just then walked in. "It's hard enough to get 'em on the dotted line when you have a bus right in front of the door, and, believe me, there isn't much left to talk to these birds about when you haven't got anything to give 'em after they've signed the order. Looks to me like trying to get a bull pup to hit the trail at a Billy Sunday meeting. After he gets there he's only a bull pup and he hasn't got any more chance of

going to a white man's heaven than I have of going to the peace conference."

"Guess it is rather hard," admitted Reilly.

"But if I don't sell cars I haven't any job, and if I sell cars I haven't any to deliver! What's a fellow going to do?" lamented Young Roper.

"Keep right on selling, I guess," said Reilly with a smile.

"Fine! But sell what?" Young Roper continued his search for information.

"Cars," was Reilly's enigmatical reply.

"That's what I've been doing all the morning," Roper exclaimed, "and I'm all in a sweat and haven't got an order."

"Well"—and Reilly assumed a serious expression—"I know it is a tough situation. We haven't anything to sell. There is a big demand. If we had three hundred cars we could sell them in three months. But we haven't got 'em—and we won't get 'em. Yet the only thing for us to do, as I see it, is to keep right on selling the cars we haven't got. We can't afford to lie down."

"This is no time to slacken. We are not the only people in the world who are having trouble. Down at the factory they were coming along nicely when they stacked up against a materials shortage and some labor trouble. The Old Man almost got gray headed and Jim the sales manager got blue in the face try-

ing to explain to the world why cars were not pouring out the door in a stream.

"Of course, it means a money loss to us now not to be able to deliver cars, but I figure we are only making that loss greater if we sit down and don't try to sell cars. A shortage is, in a way, a healthy condition. It stimulates buying, keeps prices up and centers the attention of the public on the goods it can't get. Therefore, let's keep right on increasing the pinch of our own shortage by selling cars even if we haven't got them.

"Don't forget this: You salesmen are on a drawing account, and if you get orders and I can't deliver I am the one that stands to lose. You'll lose some, it is true, but I am the big loser.

"And here's one other thing: We can't take the sign down from the door at this time. To do so would be fatal. We kept it up during the war even when people weren't buying cars, and we did it just because we have an investment in the good-will of this business and can't afford to impair the investment by letting folks think for one minute that we are slowing down and getting ready to go out of business.

"Having kept the sign over the door when we didn't have anything to do except mark time, let's not take it down

(Continued on page 30)



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

### First Floor and Basement

*Character of business—Storage, repairs, sales of cars and accessories.*

*Details wanted—Building 80 x 100 ft., with 20-ft. alley at right, first floor and basement, entire basement for live storage, first floor consisting of shop, showroom, stockroom, private office, accountant's office, space for displaying accessories and supplies, ramp or elevator.*

*Name—Western Motor Co., Great Falls, Mont.*

**Answer—**Before you inspect the plan attached herewith please note that we may have placed the building on the wrong corner. You stated that the alley was on the right side of the building, but we were not sure which way you would be standing in the building in order to designate the alley side as the right side.

A ramp is preferable to an elevator for this building and the plan has been made accordingly.

We feel that you would be far better off if you would build a second story instead of a basement. There is really little difference in the cost and of course there is no argument as to the desirability of a second floor as compared to a basement. The advantages are more light and better ventilation, and you can never have enough of either of these—especially light. Second floor space will be much more salable and will command a higher price. On the other hand your cellar storage space may go begging.

Maximum light in a garage is an advantage not only from a practical stand-

**M**OTOR WORLD is glad to receive and answer inquiries for garage plans, but in order that there may be as little delay as possible in submitting the plans desired it is imperative that the following information be given:

*Size of plot, with rough sketch showing shape and its relation to adjoining plots; name and number of departments operated; number of cars to be shown in salesroom; number of cars in garage; any other pertinent details.*

point, but also because of the impression it gives. Darkness is disagreeable, while light creates all sorts of favorable emotions in the prospective storage customer's mind. In the first place he is in a better humor—the natural feeling of welcome which a light place creates—he is glad to be there. Indirectly a light place argues better, more up-to-date business methods and it is cleaner because the dirt is more readily seen.

The practical advantages are that it is drier, better ventilated, minimizes electric light bills and affords the very best conditions for the owner to do work on his car.

Although swinging doors are shown at the entrance to the ramp you may find it more convenient to use some other form, since their swinging inward will be inter-

fered with by the upward slope of the ramp.

The shop is closed by a series of sliding doors, these doors being used so that a car may be run directly into the part of the shop where it is desired to place it. This being the case you may question the presence of the row of ten cars directly in front of these doors. There will be no difficulty at this point, however, if you will see to it that the cars in this row are the ones which usually are out all day long.

We shall be glad to explain any other points about this plan which may not be clear and will also be pleased to draw another one in case our conception does not meet with your ideas.

### Corner Building 74 x 116 Ft.

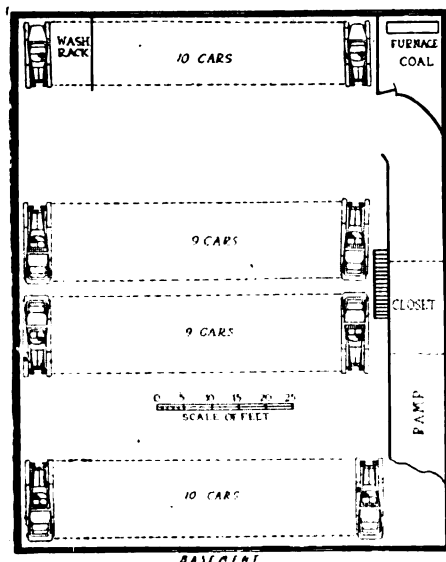
*Character of business—Sales, storage, service, accessory sales.*

*Details wanted—Two floors 75 x 116 ft., side entrance to garage and showroom, rest room for men and one for women, entrance in front to showroom and accessory store but not to office, no entrance from alley, large-size room for parts and accessory stock, wash rack, workroom for small service jobs, paint shop for 2 men, vulcanizing room, battery room, heating plant in basement.*

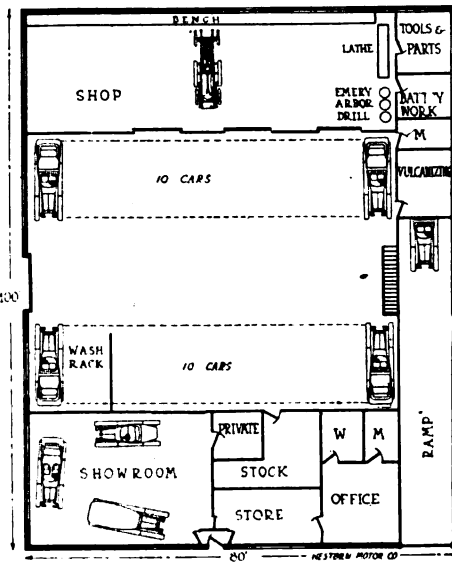
*Name—Homer Sly Auto Co., Petoskey, Mich.*

**Answer—**Before discussing the plan which we have enclosed for you let us explain that it was drawn with the idea that the front street was more important than the side street. A very careful reading of your letter failed to show which street was more important, but from the general appearance of your sketch we believe that the front street is. If this is not the case, then the plan is not quite as desirable as it might be, in which event we shall be glad to draw another.

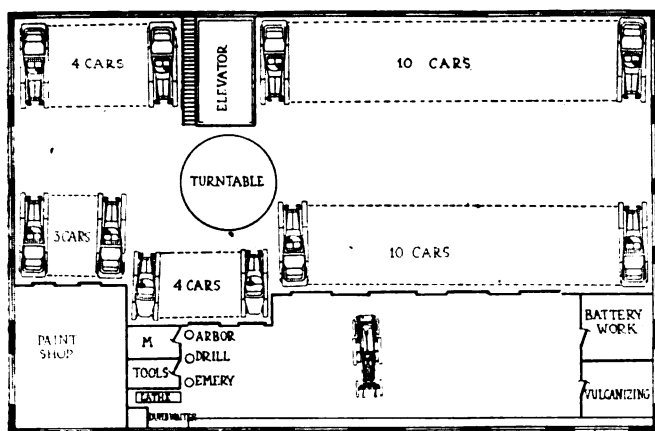
We advise that the elevation of the first floor be 100 ft. 6 in. This will place the corner of the showroom slightly below the sidewalk, but this is no objection and perhaps a little of an advantage, for it permits a man to get a better view of what is inside. At the same time the accessory store is practically flush with the sidewalk—to have the display window higher than this would largely defeat its purpose, inasmuch as goods in it would be hard to see. So this is another reason for making the floor level 100 ft. 6 in. Another advantage is that it reduces the upward slope at the garage driveway to 1 ft. 6 in. or less. So from



Two-story building designed for Western Motor Co.







A two-story garage for Homer Sly Auto Co., with departments for all kinds of sales, storage and service

every angle we feel certain that this is the best location for the floor level.

We have only employed one entrance to the garage because only one is necessary; there is no place for another.

We suggest that the vault be placed in the office right next to the dumbwaiter. The latter, you will note, runs from accessory stock and parts room directly to the shop, thus allowing, on the one hand, the keeping of all material in one place under the supervision of one man and saving steps, on the other hand, since it allows direct communication between these two departments.

Your suggestion as to the placing of the shop is very good and has been adopted. You will find a turntable a great convenience but not a necessity in handling cars on the second floor.

Sliding doors are used to close off the shop, this arrangement permitting a car to run directly into any point in the shop. Cars which are stored in the garage in front of these doors should be ones which are usually out in the daytime.

### Two Floors with Ramp

*Character of business—Dodge car sales and service, sale of gasoline, oil, etc.*

*Details wanted—Lot 70 x 110 ft., two floors, stairway and ramp to second floor, no basement, apartment on second floor.*

*Name—Welch Motor Co., Grove City, Pa.*

*Answer—On this page is shown a*

plan drawn to meet your requirements.

We should not advise you to put an apartment on the second floor, as it will interfere with the layout. The front entrance is extremely wide and we suggest that you place your oil barrels in a line along the wall in the entrance driveway.

The size of your plot is such that you could obtain a much more satisfactory garage space if you eliminate the front entrance, use an elevator instead of a ramp or if you use a ramp, put the shop on the first floor. By eliminating the front entrance this space may be devoted to showroom and accessory store and the whole front unit may be made much shallower.

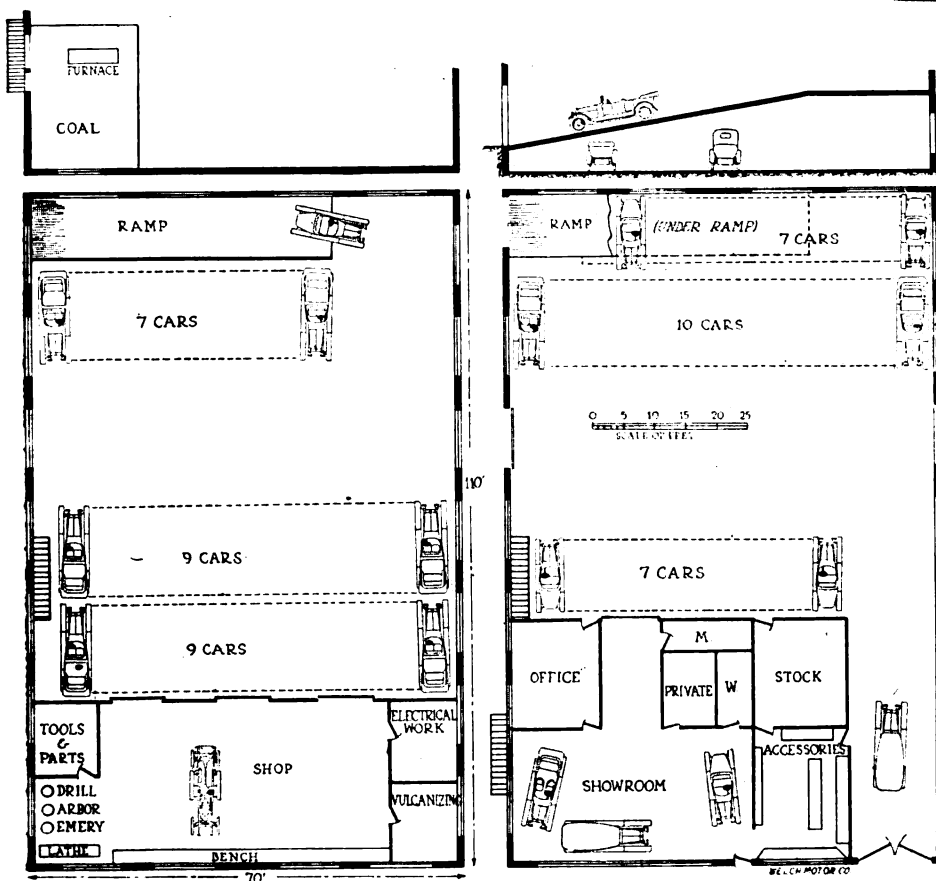
### Overland Resumes Operations

TOLEDO, OHIO, May 27—The Willys-Overland Co. resumed operations in thirty of its departments Monday. Thirty more departments opened Tuesday, and Wednesday will see the remaining units in operation. In spite of the strike which has been in progress for 3 weeks and the fact that the plant was heavily picketed by the strikers, hundreds of workers resumed their duties unmolested. There was no disorder. All of the gates to the plant were heavily guarded by police, special deputies, Overland guards and United States troops. Two hundred soldiers, members of the 135th Field Artillery and 147th Infantry, under command of Colonel Loyd W. Howard, are on duty.

No cars were made yesterday, the departments in operation producing parts only.

### Dave Buick Carburetor Now "Scoe"

DETROIT, May 31—The Briscoe Devices Co. has succeeded the Jackson Carburetor Co. The carburetor heretofore known as the Dave Buick will be continued with important manufacturing refinements, and will now be known as the "Scoe Carburetor." The company is under the presidency and active management of Frank Briscoe. A. W. McCalmont, formerly with the Jackson Automobile Co. and Briscoe Motor Co., and recently returned from overseas where he was engineering officer in the Air Service, will occupy the position of sales engineer.



A two-story building for Welch Motor Co., using a ramp instead of an elevator



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2152—TAKING UP SLACK IN DROP-LIGHT WIRE

A handy arrangement for taking up the slack in drop-light wires consists of suspending the lamp cord from two pulleys at two different points as shown in the illustration. The lamp cord is securely fastened at two places to pieces of heavy cord or clothes line and a weight, such as a ring gear, goes on the other ends of the lines. The lamp cord, when held up in position by the weights, is just long enough for the lamp to swing clear of the floor, yet when pulled out, either one or both of the lines will allow the lamp to be taken a reasonable distance.—H. W. Sumner, proprietor, Central Garage, Upper Jay, N. Y.

## No. 2153—PISTON RING SKID FOR FORDS

A skid for rapid replacement of Ford piston rings is made by sawing  $\frac{3}{4}$  in. from the skirt of an old Ford piston, preferably one where the rings are all at the top. Four pieces of clock spring  $\frac{1}{2}$  in. wide and 2 in. long have the temper drawn from one end and a  $\frac{1}{8}$ -in. hole drilled  $\frac{1}{4}$  in. from the end. Slots are cut in the piece of piston the exact width and thickness of the springs and these are fastened in the slots with brass or copper rivets. In operation, the skid is placed on top of the piston and the rings pushed down over the skid, one at a time. The springs open the rings up so that they will slide into the piston.—B. C. Adams, Adams Garage, Knox, N. Y.

## No. 2154—IDENTIFICATION OF BATTERY PARTS

When batteries are disassembled for dry storage the number of the battery is stamped on the strap of each group, using the same number that is used on the box. The jars are also numbered. All the numbers correspond to the number on the repair card and all batteries are handled by number instead of by the owner's name.—W. A. Schultz, Rochester Motor Car Co., Rochester, Minn.

## No. 2155—EMERGENCY VALVE-RESEATING TOOL

An emergency valve-reseating tool is made by filing teeth in the face of a spare valve, the teeth being shaped somewhat like a regular tool. This is skin hardened in a blacksmith's fire with potash and the "tool" thus made is turned on the seat with a regular valve grinder or brace and bit until a good seat is cut. If the teeth are spaced unevenly, this

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

will prevent the tool from chattering.—J. O. Reed, Lakeside Garage, Morrisville, Vt.

## No. 2156—TAKING UP END PLAY IN MAIN BEARINGS

End play in main bearings is taken up by building out the babbitt at the ends with a soldering iron and some special solder. The solder is made in the proportions of 1 lb. pure block tin to  $\frac{3}{4}$  lb. half-and-half solder. These are melted together and poured into sticks. Muriatic acid killed with zinc is used to clean the surface and the soldering done with a well-tinned iron. After the end of the bearing has been built up, it is scraped to fit.—Stent's Garage & Machine Shop, Fairview, Ill.

## No. 2157—REMOVING THE PINION NUT

The drive-shaft pinion nut is removed by first taking out the lock wire or cotter pin, then putting a special wrench on the nut. This wrench is made from  $\frac{1}{4}$ -in.

steel plate, the length and nut size being made to fit the particular make of car. To remove the nut, place the gear in reverse, open the priming cups and turn the engine over by hand. To put the nut on, put the gear in low speed and crank.—William W. Swanson, Superior, Wis.

## No. 2158—ASSEMBLING MAGNETS ON FORD FLYWHEEL

In assembling the magnets on the Ford flywheel, all north poles must be next to north poles and all south poles next to south poles. The south poles of the magnets will attract the north pole of a picket compass and all south poles are marked with a piece of chalk before assembly. To test the correctness after the magnets are assembled pass the compass around the flywheel, close to the outsides of the magnets and if there is no error, the needle will reverse as each pair of poles is passed. If a magnet is in wrong, the needle will turn crosswise and tremble.—Lawrence Sly, proprietor, Service Repair Shop, Carbon Hill, Ala.

## No. 2159—END BLOCKS FOR SECTIONAL MOLDS

End blocks for sectional molds will prevent the pressure of the air bag from forcing the casing over the edge of the mold and making an impression on the tread. The blocks are made from heavy sheet iron or steel cut in squares with one end rounded. They are bent to fit the different size molds and are placed at both ends.—Charles C. Hinton, Orange County Tire Co., Santa Ana, Cal.

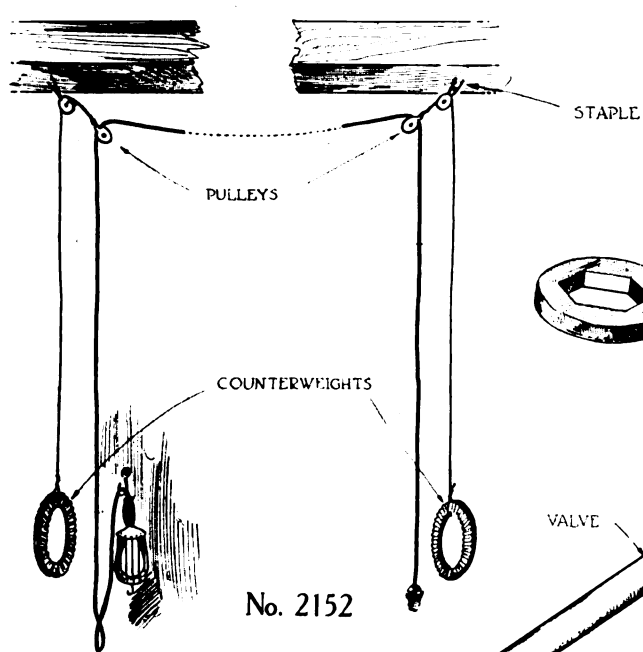
## No. 2160—SOCKET WRENCH ADAPTERS

Two adjuncts to a socket-wrench set are an elbow extension and a bench holder. The elbow extension is used for horizontal bench work where only one hand is free and the bench holder for vertical work. The ends are flattened so as to be held in a vise, or drilled to be screwed to the edge of the bench.—Wayne Stettbacher, Alhambra, Ill.

## Roamer Production 6-10 Daily

KALAMAZOO, May 28—The Barley Motor Car Co., maker of the Roamer, is 500 orders ahead of production. The company is running between 6 and 10 cars daily, but is having a little trouble getting a steady supply of bodies. The plant is now employing approximately 200 men.

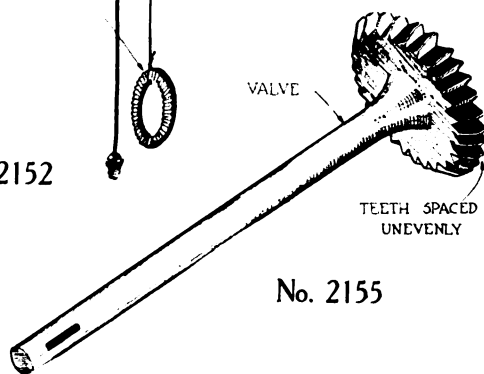




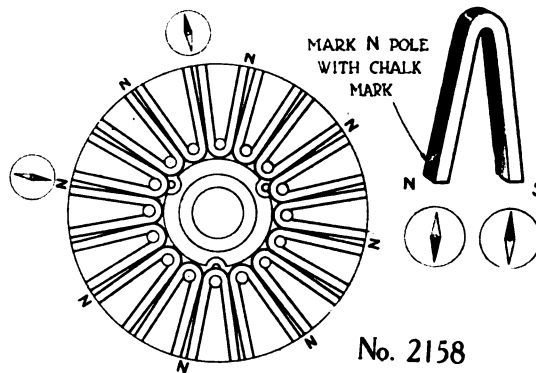
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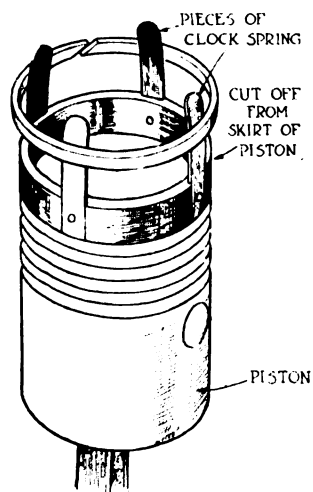
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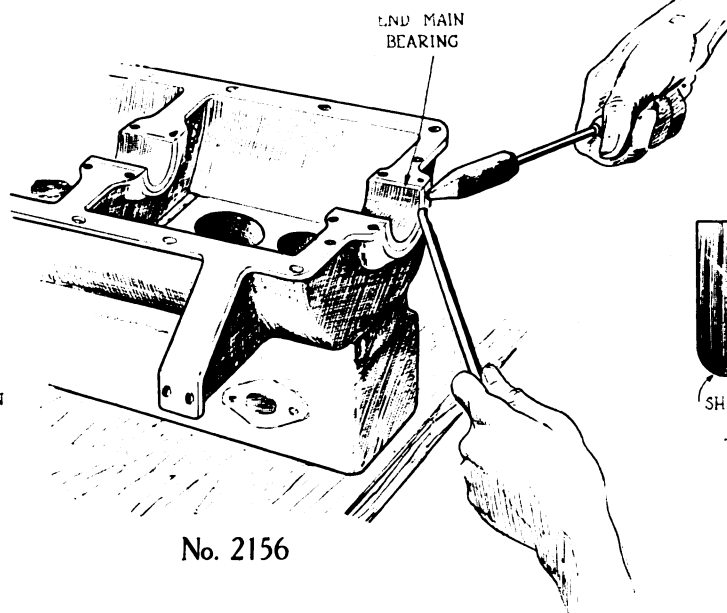
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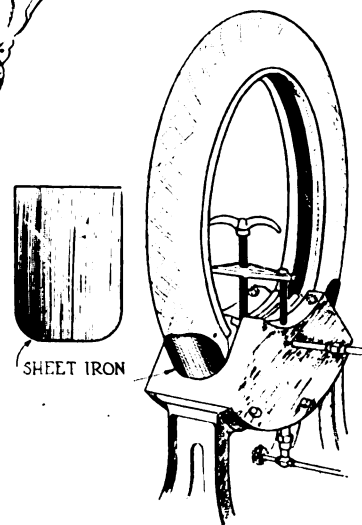
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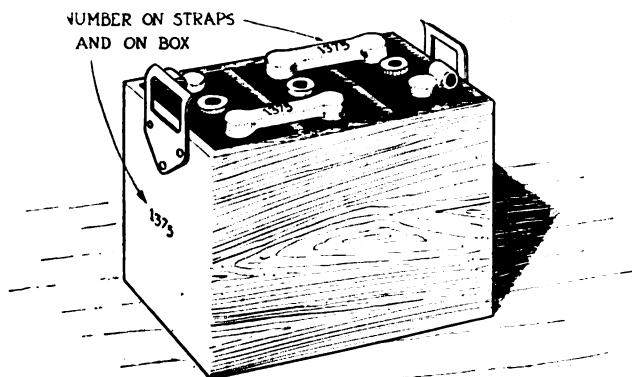
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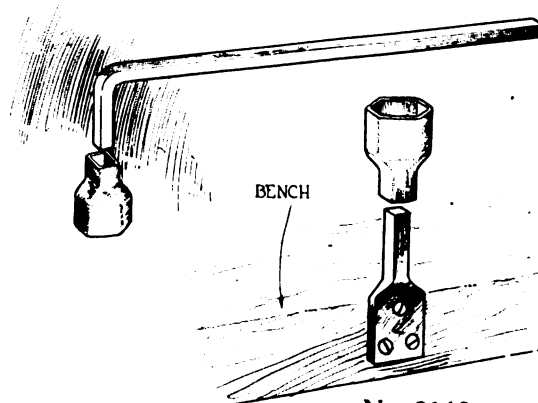
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No. 2159



No. 2154



No. 2160



# Editorial Observation

## Make More Money

**T**HERE are so many Ford cars in this country that every garage and repairshop finds itself in the position of having a very considerable amount of this class of service work to perform and if no study has been given to the subject it will be found that either the garage is losing money or the prices are too high. This comes of trying to do the work in the old hit-and-miss way of taking things apart and trying to locate the trouble. Under these conditions an owner never makes a second stop if he can avoid it.

Ford owners are, as a class, men whose incomes are not very large; therefore expense of upkeep is an item of importance with them and they will patronize the shop that does the work—

- 1—Reasonably
- 2—Correctly
- 3—Quickly.

It is only possible to do Ford repairing this way by taking advantage of the experience of men who have studied the subject, devised ways of turning out work better, more quickly, and installing various kinds of machinery and devices for cutting down the

labor time on jobs and making it practically impossible to do a job wrong.

The day of hand scraped bearings is past and the shop that is equipped to fit bearings by "burning-in" will make the profit and get the business because the job is better done and takes about one-eighth the time consumed in scraping them in by hand. This holds true with many other operations on the Ford.

On page 10 of this issue will be found the first of a series of articles describing in detail and illustrating the various overhaul operations on the Ford Model T. The information is condensed from the experience of a number of practical Ford repairmen, some of them having large shops and some owning small ones.

The aim has been to present to the reader the best possible method of doing the work and making no mention of alternate methods that seem inferior or that take an undue amount of time. Where an alternate method seems to have nearly as many advantages, it is also given in detail. This series will run from week to week and will take up all phases of overhauling all parts of the car.

## Wanted—Real Salesmanship

**T**HE need for real salesmanship in the automobile business was never greater. The man who believes that selling motor cars to-day is largely a matter of taking orders is due to be left at the post in the race for success.

Just because factories are behind in deliveries; just because the demand for cars apparently is ahead of the supply—these are no reasons for lying down. For the salesman who will succeed, the man who will make money in 1919 and more in 1920, is the man who will really sell cars.

If John Henry Jones comes into your salesroom and says he would like to buy a Blank car, and you take down his name and address and get his signature on the dotted line, your job is only half done. You have not sold him the car. You have taken his order.

How do you know he won't get discouraged waiting for a week or ten days or two or three weeks, as the case may be, and cancel the order because some one else can make a delivery a few days earlier? It's being done every day. And it's being done because of a mistaken idea of what salesmanship is.

The salesman worth while is the man who makes the sales stick. He is the man who really sells cars—sells them so they stay sold, so that the prospect wants the car so hard the thought of cancelling and getting something else never enters his mind. He's sold on the Blank car. That's real salesmanship.

That's the kind of salesmen the dealer wants—and, equally important, that's the kind of salesmen the dealer has got to develop, if he is to make money in 1919 and more in 1920.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## A New Mind—The New Way

***He Is Going to Make Money in 1919 and More in 1920—He Lives in a Town of 400 People, but He Is Going to Be a Leader in His Line. Read His Letter***

Editor Motor World: I do not see how any man can make a success in the automobile business without being a reader of some good motor magazine like the Motor World.

I get Motor World every Monday morning as regular as clockwork, and, no matter how busy I may be, I must stop to tear off the wrapper and give it the "once over" before I can be satisfied. I then lay it up where I can find it when I have more time. Sometimes I am a week behind, but I read almost every item before I lay it aside where I can refer to it for future reference in regard to making some handy tool or taking care of some special trouble.

When I picked up Motor World this evening and saw a little column headed, "What About Building?" I thought of the benefits I have derived from reading letters from readers and decided I would give you my views along this line to see how they stack up alongside some other man's, thinking I may suggest something that would give another reader an idea.

### Will Build This Summer

At last to my point: I am going to build this summer. The reasons I will give you after answering your questions. I wanted to build last summer, but delayed on account of war, because labor and materials were high and car production very uncertain. Labor is now just as high as ever, but I find that material in almost all cases has taken one or two drops, but of course is not down to where it used to be, nor do I believe it will ever be again, so if one waits too long for old-time prices he may find himself an old man before he makes up his mind to do anything.

I am going to build this summer for the following reasons: First, I need the room, having now only a small place with no showroom. And being unable to take care of all the business I had has given room for two other garages to start in competition, which would never have happened if I had been prepared. But I will have nothing to worry about when I am equipped in my new building, for I was the first on the ground and have had the experience which my competitors have yet to gain.

They have already made the same old mistake we all made, that of putting up too small a building with nothing modern.

Second, I think there is money to be made in the near future, but you must be ready to start business in the New Way. Times have changed and the public is becoming more educated along automobile lines and will demand better service, will buy cars from the man who has a prosperous looking place instead of a little old repairshop or blacksmith shop and who barely knows how to run a car himself and cannot stand behind the car in the way of service, or carry a sufficient stock of parts.

These fellows are going to be snowed under and I imagine I can see that snow cloud coming now and am taking no chances on being caught with the rest, if I build now a modern building equipped with tools and machinery to save labor, and an attractive stockroom full of automobile necessities and parts, as well as an attractive showroom in which to display my cars.

## "SELF-STARTERS"

By C. H. Stanton Massey\*

Just when things were going nice,  
She'd stall and then she'd "jam"  
And tie up everything behind  
While you would sweat and damn.

Remember in the old days  
When you had to crank the car,  
Get out and turn her over  
And break that good cigar.

Then came the good self-starter,  
A cure for aching hearts;  
No more to tie up traffic;  
"Press the button" and she starts.

It's just the same in life, too—  
Some fellows must be cranked;  
They're always getting in the way  
And stay there till they're "yanked."

Put on a new "self-starter."  
Where there's life, there's hope;  
It's easier to "press the button"  
Than it is to use a rope.

\*Foss-Hughes Co., Philadelphia.

It is true it will cost me a little more money to build now, but why wait, stay in the rut and let the other fellow go ahead of you, when you can go ahead and build, get down to business in the New Way and more than make the difference in cost of a building now and next year?

## The Traditions of Successful Publishing

Editor Motor World: Permit us to congratulate you upon the summer merchandising number of the Motor World. Your cry for better business,

**"MAKE MONEY IN 1919, MAKE MORE MONEY IN 1920,"** is a call to dealers to respond with every energy. It should be a motto in every dealer's office. It should be impressed upon every salesman of automobiles, trucks and tractors.

The section devoted to the selling of these articles contains many valuable ideas gleaned out of the experience of years by successful dealers and salesmen, and the points which they set forth are such as the individual dealer looking to the betterment of his business could not have obtained by weeks of effort and considerable sums of money.

Motor World in every respect is keeping up the traditions of successful publishing, and in its own conduct has not fallen short of the recommendations it has set out for automobile dealers to follow.

With best wishes for future success, mindful of the benefit to the trade in the past, we remain,—National Automobile Dealers' Association, Harry G. Mook, Business Manager.



I am going to build this year and by this time next I expect not only to have made the difference in cost of material of to-day and of next year, but to have my competitors very much worried, and, as I stated before, they are new in the business, and if I never let them see the cream of the automobile business they cannot get strong enough to get off their knees. Of course in larger towns there is always room for several good garages, but as our town has a population of only 400 three of us cannot survive.

So I have decided to follow Motor World's advice and conduct my business in the New Way. I am going to follow plans laid down in the big Spring Number of a few weeks ago, departmentize my business, stay away from the work bench, meet my customers at the front door with a pleasant word and a smile, and then if I am not the leader in my town and surrounding country I will be the first one who ever did fail if they had the proper spirit and ambition.—NEW MIND.

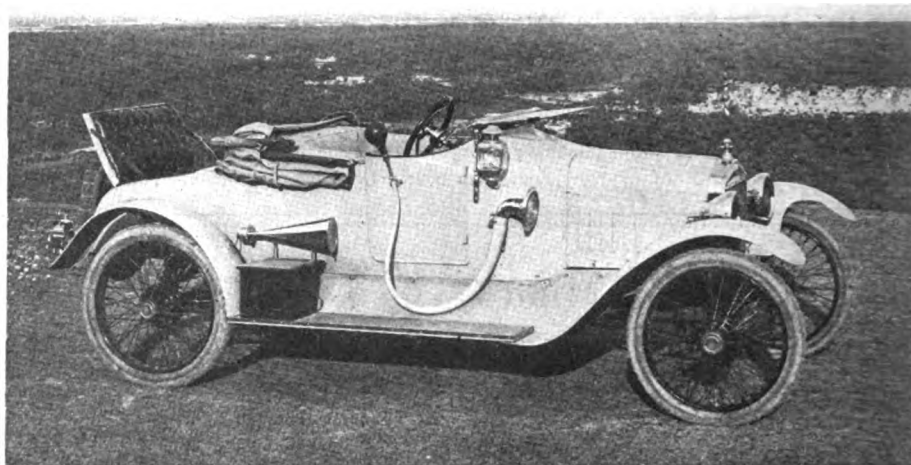
### Salesmen's Commissions

Editor Motor World: Would you please give us some information in regard to automobile salesmen's commissions and salaries for garages located in towns of from 15,000 to 25,000. The salaries and commissions that have been found to be the most practical, and how they are paid, by straight commission or salary and commission. Also, as to how the used cars are taken care of in the transaction and any other information that would assist in handling sales would be greatly appreciated.—Spencer Garage, Charleroi, Pa.

Answer—In cities where the volume of business is sufficient to give the dealer a good living on commission, the commission on passenger cars is approximately 5 per cent, and on trucks we have found it to be about 7½ per cent. There are cities, however, in which the passenger car salesmen's commissions are about 3 per cent. We do not understand why they are so much lower except that it seems to be a custom that has grown up with the trade.

In figuring the salaries of salesmen they are generally figured on the same percentage basis. In other words, if a man is not paid a commission of 5 per cent he is paid a salary which amounts to about the same thing, and he is expected to get enough business to make his salary 5 per cent of the business that he gets. If he is paid part salary and commission an effort is made to figure the thing out so that it totals 5 per cent.

In small towns the arrangement varies considerably. You may not sell enough cars to make 5 per cent of the total sales sufficient compensation for keeping the salesmen busy all the time. In that case, salesmen are paid anywhere from \$20 to \$50 a week, depending on the size of the town and the dealer's business, and in some cases these salesmen have other duties than selling cars. When the town becomes very small, the matter has to be worked out for the particular case by the dealer.



Two-seater De Luxe Four Ford put on the market in Bombay, India

## Here's a Letter from India

Editor Motor World: We have much pleasure in enclosing a photograph of a 2-seater De Luxe Ford which we are putting on the local market. It consists of the standard 20 hp. chassis lowered 4 in. nearer to the ground with special fittings.

On this specially lowered chassis we fit a 2-seater body as shown in the photograph. Special fittings with the car include:

- Wire wheels.
  - Spare wheel fitted with tire and tube and spare wheel cover.
  - Two sets of waterproof cushion covers.
  - Special Brooks pattern tool box on the running board.
  - Two electric C. A. V. head lights.
  - Two Lucas oil side lights.
  - Instrument board in scuttle dash fitted with clock, speedometer and ignition and lighting switches.
  - Tilting steering wheel.
  - Wood running board fitted with rubber lined matting and nickel plated angle beading.
  - Hood and windscreen.
  - The usual kit of tools.
  - All fittings, including radiator, are nickel plated.
  - Color according to choice.
- The car is therefore absolutely ready for the road.

The engine is fitted with a Zenith carburetor in place of the usual Holley or Kingston and a synchronized high and low tension ignition (instead of the usual commutator and four coils) which uses the current from the ordinary Ford generator or from a battery if preferred.

The result is a very sweet and slow running engine, which, combined with the absence of rattle, which has been eliminated by keeping the mudguards clear of the body and by fitting canvas or leather valances instead of the usual metal ones, results in a car that will bear comparison with most of double its price in quality running and appearance, at the same time carrying with it all the advantages of the standard Ford in repair service and supply of spare parts.

This car has attracted a tremendous amount of attention locally and we are now supplying it to order. At present we have more orders than we can attend to until we have organized the department which is manufacturing the bodies and special parts for it.—Ford Automobiles (India), Ltd., Bombay.

P. S.—We are supplying this car at approximately \$400 more than the standard touring Ford car.

### Files His Motor Worlds

Editor Motor World: We find Motor World a great aid in all departments, especially in keeping up with new accessories and the like, as well as trade matters, and would not attempt to do business without the last issue on our desk. In fact we have a complete file since our subscription began two years ago and find it a regular encyclopedia for reference.

Arkansas has a new lien law, which gives us a lien on a car for anything sold for it, except gasoline and oils. Heretofore the lien was only for repairs. Now it is for tires, tubes and accessories and means good-bye to the dead beat.

We have just moved into our new building adjoining site of old. It is only 25 x 50, but as we are not downtown, is large enough at present and we can add 40 x 50 more when needed.—G. H. Bilheimer & Son, Little Rock, Ark.

### Full of Golden Ideas

Editor Motor World: We have that long-looked-for Summer Merchandising Number and, believe me, it's a dandy, chock full of golden ideas. I have a particular interest in the Flat Rate System which is edited by Mr. Chamberlain. Would it be possible for you to send me six copies of the supplement? You may recall it was the large sheet with all the forms pertaining to this system.—A. H. Wolf, H. R. Wolf Garage, Cleveland.



## What Do You Think of These Contract Forms?

Editor Motor World: We use two different sales contracts, because new automobiles are invariably sold for cash and we incorporate in this contract exactly what the customer can expect in the way of service. This eliminates any arguments as to the time that the service is free. It also protects the customer as

well as the house from any exaggerated promises that salesmen will sometimes make.

The reason we did not incorporate a guarantee in the used car sales form is that no two used cars are sold under like conditions.

From our past experiences about

85 per cent of our used cars are sold on deferred payments. A good many of our used cars are sold with the 10 days' guarantee, some 30 days' guarantee and some with only the guarantee that they are in good condition at the time of delivery.—De Luxe Automobile Co., P. H. Brockway, St. Louis.

### DE LUXE COMPANY'S USED CAR FORM

St. Louis, Mo.....19....  
Car Number .....

Gentlemen:

Please enter my order for one.....AUTOMOBILE, to be equipped as per specifications below, for which I agree to pay the sum of \$.....F. O. B. St. Louis, Mo.

MODEL	COLOR	TYPE
.....	.....	.....
Extra at Additional Cost.....		
Allowance on Used Car: \$.....		
REMARKS .....		

I hand you herewith \$..... to be applied on the purchase price and agree to pay the balance of \$..... in cash upon the tender to me of the automobile, or.....monthly notes of \$..... each.

It is mutually understood that the above deposit shall be forfeited if purchaser refuses or does not accept automobile upon tender of same.

It is understood and agreed that there are no verbal understandings, promises, or agreements made by any agent, salesman or employee, pertaining to this order that are not clearly specified herein.

It is mutually understood that all dates of delivery are made without liability on our part for delay arising from strikes, fires, accidents, or any other causes beyond the control of the manufacturer or ourselves.

It is understood and agreed that title of ownership of car as above described does not pass to me until final cash payment is made.

This contract is not valid unless accepted by an authorized officer of the DE LUXE AUTOMOBILE COMPANY.

Signed.....Purchasers.  
Business Address.....Phone.....  
Residence Address.....Phone.....

DE LUXE AUTOMOBILE COMPANY

Salesman.....By.....

### DE LUXE COMPANY'S NEW CAR CONTRACT

St. Louis, Mo.....19....  
Car Number .....

Gentlemen:

Please enter my order for one.....AUTOMOBILE, to be equipped as per specifications below, for which I agree to pay the sum of \$.....F. O. B. St. Louis, Mo.

MODEL	COLOR	TYPE
.....	.....	.....
Extra at Additional Cost.....		
Allowance on Used Car: \$.....Make.....		
Model.....Car No.....		
REMARKS .....		

I hand you herewith deposit of \$.....to be applied on the purchase price and agree to pay the balance of \$.....in cash upon the tender to me of the automobile.

It is mutually understood that above deposit shall be forfeited if purchaser refuses or does not accept automobile upon tender of same.

It is mutually understood that this automobile is to be of the specifications and equipment as given in the catalogs issued by the manufacturer of this particular model.

It is mutually understood that this automobile is guaranteed in accordance with the guarantee given by the manufacturer.

It is understood and agreed that there are no verbal understandings, promises or agreements made by any agent, salesman or employee, pertaining to this order that are not clearly specified herein.

It is mutually understood that all dates of delivery are made without liability on our part for delay at the factory, arising from strikes, fires, accidents, or the failure of railroad to furnish cars or deliver promptly or any other causes beyond the control of the manufacturer or ourselves.

It is understood and agreed that title or ownership of car as above described does not pass to me until final cash payment is made.

This contract is not valid unless accepted by an officer of the DE LUXE AUTOMOBILE COMPANY.

Signed.....Purchaser.  
Business Address.....Phone.....  
Residence Address.....Phone.....

DE LUXE AUTOMOBILE COMPANY

Salesman .....

#### STANDARD SERVICE WARRANTY

I. Service is defined under the terms of this "Service Warranty" as "The Co-operation of the Dealer with the Owner," he being original purchaser, during the life of the automobile in the hands of the purchaser, in such a manner that the owner will secure permanent use of his investment at the lowest possible cost.

II. The automobile covered by this Service Warranty is subject to the guarantee of the manufacturer and is not guaranteed by the dealer.

III. The manufacturer offers the following warranty:

In order to avoid misunderstandings, we desire our patrons to understand clearly that our guarantee is in respect of defective material only. It is limited to twelve months from date of delivery of car by us and, though during that time we supply at this factory free of charge the necessary replacements of parts which under normal use and service appear to us to have been defective in material, the time, labor, transportation expense and any other expenditures incurred are in all cases charged for.

We do not assume any contingent liability nor do we accept any responsibility in connection with tires, rims, radiators, starting and ignition apparatus and trade accessories such as lamps, speedometers, etc., which are guaranteed by the manufacturers of same. Where claims are made in respect to faulty material, the parts complained of must be returned to us, charges prepaid, marked with the owner's name, for inspection.

Customers' cars are driven by our employees at the customers' own risk.

The condition of this guarantee is such that if the motor vehicle to which it applies is altered or repaired outside of this factory, our liability shall cease.

The purchaser understands and agrees that no warranty, either verbal or written, of the motor vehicle is made or authorized to be made by this company other than herein above set forth.

IV. The dealer, through his Service Department, and for the owner, will handle all claims for adjustment arising under the terms of the Manufacturer's Warranty; and will exert his best efforts in securing prompt and satisfactory settlement. It is understood that the owner will abide by the decision of the manufacturer respecting "no charge" replacements, and make settlement at current prices for any parts or accessories furnished by the dealer under an adjustment claim, that are not credited by the manufacturer.

V. The dealer agrees to assist the owner in learning to drive and care for his car, and presents with the delivery of the car complete printed instructions, to which his attention is called.

VI. The dealer agrees to make all the necessary adjustments not repairs, also oil and grease car thoroughly, except as herein provided, for the proper operation of the car, without cost to the owner, for a period of ninety days from the date of sale; provided, repairs or adjustments have not been made outside the Service Department of the dealer or without his knowledge.

VII. Subsequent to the ninety days' warranty described above, inspections of the car will be made at the request of the owner at times mutually agreeable to the owner and dealer. Such adjustments as may be deemed necessary for this proper operation of the car will then be made at the request of the owner, in a careful and workmanlike manner by the Service Department of the dealer, free of any cost to the owner, except a charge will be made for oil, grease and gasoline when used, or any material, parts or labor necessary to repair the car caused through misuse, negligence, or accident.

VIII. The dealer will maintain such a stock of parts as will be required to fully and promptly meet the normal requirements of the Service Warranty, and will employ competent mechanics on duty at all reasonable hours to give accurate attention to the needs of the owner.

IX. The dealer invites fair and business-like co-operation from the owner in maintaining the integrity of this Service Warranty, which is hereby made a part of this Sales Contract.....on this date.....19....

Issued by DE LUXE AUTOMOBILE CO.

Member National Automobile Dealers' Association

Accepted by.....  
Purchaser-Owner



# Dayton Starting and Lighting System for Fords

A NEW starting, lighting and ignition system embodying several new features is being manufactured by the Dayton Electrical Mfg. Co. The system is of the single-unit type and is especially designed for use on Fords. It is possible to connect it directly to the crankshaft because of the new armature used in the dynamotor. The windings, instead of being of insulated wire, are made of flat copper strips cut to length and formed into hairpin loops, which are inserted through a core of laminated iron disks. They are then bent into shape by a special machine to make them uniform, leaving the flat ends to weld to the commutator segments. This is done with an electric welder which makes the commu-

tator a part of the winding. The commutator is of the internal type, the brushes bearing against the inside surface. The armature is impregnated with Bakelite and then baked, making it a solid, homogeneous mass, impervious to oil and water.

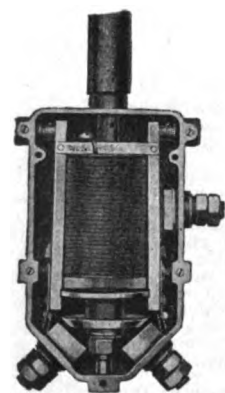
The field frame of the dynamotor is of semi-steel and has twelve field poles in which the armature rotates to generate the current. The armature winding is of the parallel type and there are twelve brushes bearing on the commutator. Two of these are almost pure graphite for lubricating the commutator and the others are of a metal-graphite composition.

The starting switch and automatic cut-

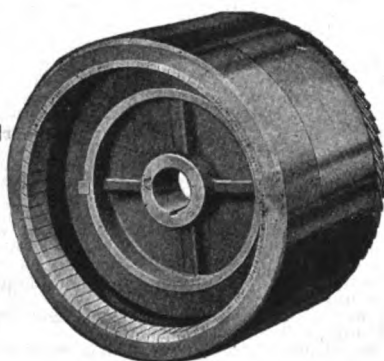
out are combined, materially reducing the number of parts in the system.

The mounting is on the frame of the car under the heel board and is operated by pushing down on the starter button with the heel. This operation connects the battery in series, giving 12 volts for starting. When the starter button is released it automatically comes back to the running position and the dynamotor then generates the electric current to recharge the 6-volt battery.

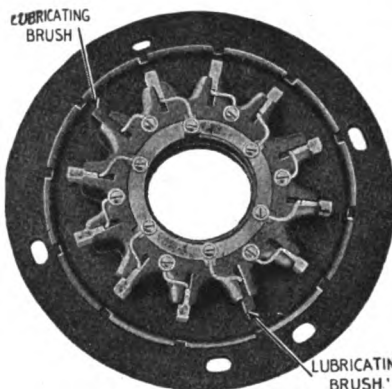
When the voltage of the dynamo drops below the charging rate, the cut-out in the switch automatically breaks the circuit between the dynamo and battery, so that the battery will not discharge when the car is running at too low a speed.



Interior view. Combined starting switch and automatic cut-out



Completed armature



Commutator brush assembly



Hairpins inserted through armature laminations

## Keep Right on Selling

(Continued from page 21)

now. Let's keep her nailed right there, because the big old business is just a little way off. Pretty soon that little old production thing will be back with us and we'll have cars to sell. I hope we get so many that we have to put on more salesmen and hustle like the very devil to get from under the load the factory pushes at us. Last December I was afraid production would beat us to it, but the dealers with the shows and everything got the demand back and she's hooting beautifully. Let's keep it going.

"Every order we take now means a sale some day even if not this summer. The man who places an order for a Sennett car this summer and then cancels and buys something else because we couldn't deliver is still sold on the Sennett. Most of those people will regret their inability to get a Sennett, and some day we can go back at them and get the sales we lose this summer. Many of these people will buy cars that aren't as good because those are the cars they can get.

"Also, we can hang onto some of these

orders and turn them into enclosed car sales next fall. The factory will have a lot of enclosed models by the end of September and we sure are going to make a cleaning on sedans. All my life I've wanted the factory to make sedans and I've sold all I ever could get. Now things are coming our way, and just watch us go.

"Then, there are used cars. If we see that a man is getting too restless because of our failure to deliver let's try to fix him up with a used car. We can pick up a few of these at a price which will let us overhaul them and sell them at a profit, and if I can make \$200 net on a used car I don't see why it isn't as good as selling a new car.

"Anyway, for the morale of the industry, I don't think one of us should let down. It took some hard boosting last winter to get the ball rolling. If we let it stop now production may catch up with us when winter slows down sales, so let's keep hitting on all twelve. Don't forget the rabbit and the mud turtle. And that old production mud turtle is coming down the road as sure as death and taxes. Let's KEEP ON SELLING. It's good exercise, anyway."

## Grand Rapids Garages Close Sundays

GRAND RAPIDS, MICH., May 26—Every garage in the city but two will be closed tight on Sundays hereafter. This decision was made by the Automobile Business Association this week. The two exceptions are the Hermitage Garage & Auto Co. and Glenn R. Austin. The association designated these two places to handle the Sunday trade. It has developed that there never was enough work to warrant any one garage bearing the overhead expense of keeping open on Sunday when all others are doing business.

## Moline Licenses Filling Stations

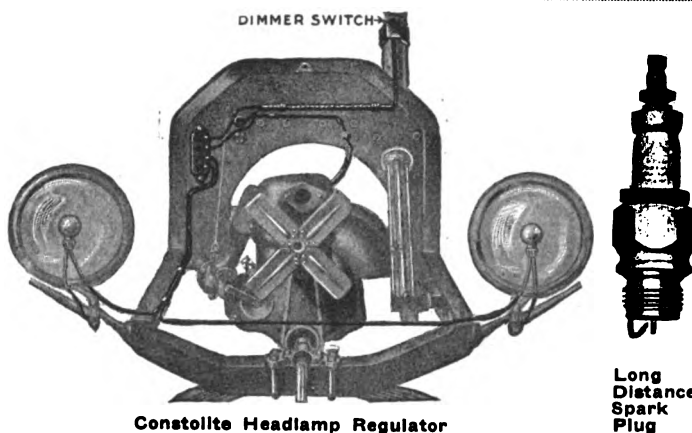
MOLINE, ILL., May 31—This city has adopted an innovation that is not relished by the proprietors of gasoline filling stations. An ordinance has been adopted which requires each filling station to pay an annual license of \$10, and also to file a bond requiring compliance with the laws. The aldermen argued that the filling stations receive considerable benefit from the city and should pay for the favors that have been granted in relation to location.



# Automotive Equipment

## CONSTOLITE HEADLAMP REGULATOR FOR FORDS

This is a headlamp regulator for Fords giving full driving light at practically all speeds. A switch is mounted on the steering post and two nitrogen bulbs give a maximum light at low speed. Can be installed on any 1915 or subsequent model in a few minutes without machine work. Price \$4.85.—Detroit Starter Co., Detroit.



Constolite Headlamp Regulator

## LONG DISTANCE SPARK PLUG

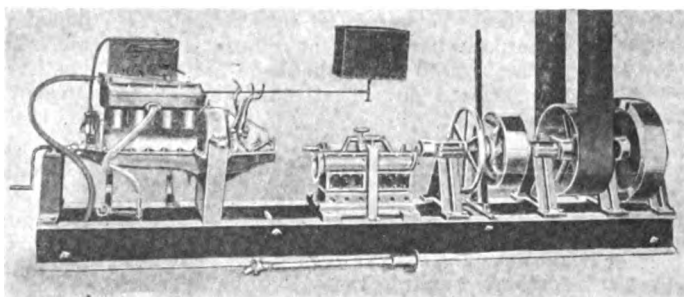
This is a spark plug with a knife-blade firing point intended to produce a sheet of flame instead of a single spark. The electrode and firing points are made of special alloy to withstand heat without disintegrating. A spark-gap principle is used in the construction of the plug. The center electrode does not quite make contact with the brass cap on top of the porcelain and the spark gap is thus formed in a vacuum. Made in all sizes and threads. Price \$1.25.—Long Distance Spark Plug Co., Birmingham, Ala.



Long Distance Spark Plug

## ALLRED TESTING MACHINE FOR FORDS

This is a combination machine for burning-in Ford bearings and testing the engine. It consists of a long base made of I-beams on which are mounted the driving mechanism at one end for turning the crank-shaft to burn in the bearings and on the other end is mounted an engine stand. A clutch allows the machine to be thrown in and out of operation. A hand wheel is provided to test the bearings and the bearings are burned in with the cylinder block inverted.—Auto Shop Equipment Co., Greensboro, N. C.



Allred Burning-In and Testing Machine

## VAN SICKLEN SPEEDOMETERS FOR FORDS

These are speedometers to fit all models of Fords from 1915 to 1919 inclusive. Made in a number of different styles including brackets, flush, shield, etc. Prices range from \$14 for the bracket type to \$15.50 for the flush type or shield type. All speedometers for Fords are now furnished with the No. 401 45 deg. angle joint driven member, which fastens to the rear of the front axle, and the rear drive itself is a 45 deg. angle joint, this member being stationary and making a straight connection with the flexible shaft.—The Van Sicklen Co., 14 Chicago street, Elgin, Ill.



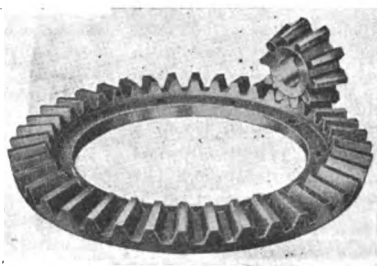
Van Sicklen Speedometer

## HAYNE'S WEAREVER RUNNINGBOARD

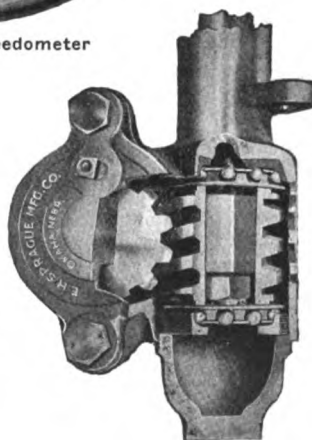
The process of rolling linoleum and similar products upon board is being introduced as a means for runningboard construction. This process comprises a molding of linoleum or rubber tile on wood the exact size of the runningboard. The wood has on its surface numerous holes or grooves with their walls slanting inward into which the material is forced. This anchors a thin layer to the base and makes it impossible for it to bulge, as often occurs with the ordinary methods of laying linoleum. Instead of a foot pad fastened to the step with several screws, it is possible with the Hayne type of runningboard to mold the foot pads into the design. It is also possible, if desired, to mold into the design such things as monograms, or any other markings desired on the car, making it a factor in theft prevention as well as identification.—J. T. Hayne, Buffalo, N. Y.

## SPECIAL GEAR RATIO FOR FORDS

These are special sets of gears to give the Ford car gear ratios varying above and below the 3.63:1, which is standard on the Ford. The gears are made of nickel steel and the ratios available are 2 3/4:1 for racing cars and roadsters, 3:1 for general driving and 4:1 for commercial service. Price \$15 for any one.—Detroit Radiator & Specialty Co., 961-965 Woodward Avenue, Detroit.



Gear Ratios for Fords



Sprague Worm Steering Gear

## SPRAGUE WORM STEERING GEAR FOR FORDS

This is a worm steering gear for Fords and is irreversible, preventing the Ford from cramping or buckling and locking over the center. The worm and gear are made from 20 point steel, case hardened, and the housing is of malleable iron. The gear attaches to the engine with no holes to bore. With the ball bearing model an internal spring is furnished which by its construction acts as a shock absorber and prolongs the life of the gear. Price \$25.—E. H. Sprague Mfg. Co., Omaha, Neb.



# THE LAW

By George F. Kaiser

## PERPLEXED?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### How Do Liens Apply?

Editor Motor World: We had the question come before us as to whether or not we had a right to hold a customer's car under our right as given in the Lien Law, Section 184. The facts of the case are these:

A customer brought his car to the garage and had work done on it a month or two ago; the car was taken out and used by the customer. The bill for the work was not paid. At a later date the same car was brought back to the garage voluntarily by the same customer and work was ordered done upon the car and materials furnished for that car.

Right after the completion of this last work instructions were given to one of our employees not to release the car until the whole amount was paid.

Will you kindly inform us whether or not we were acting under our rights?—Wm. Petry, Inc., Hudson Garage, Hudson, N. Y.

#### He Has a Lien

**Answer**—A person keeping a garage or a place for the storage, maintenance, keeping or repair of motor vehicles, as defined by Article 11 of the highway law, and who in connection therewith stores, maintains, keeps or repairs any motor vehicle or furnishes gasoline or other supplies therefor at the request or with the consent of the owner, whether such owner be a conditional vendee or a mortgagor remaining in possession or otherwise, has a lien upon such motor vehicle for the sum due for such storing, maintaining, keeping or repairing of such motor vehicle or for furnishing gasoline or other supplies therefor, and may detain such motor vehicle at any time it may be lawfully in his possession until such sum is paid.

Time and again dealers who have been unable to collect for storage or repair of motor vehicles have been confronted with the question as to whether they could hold a car of an old bill when the owner of it brought it into their place of business for further repairs.

It has been sometimes contended that the dealer had the right to hold the car for the first bill and also for the second bill. On the other hand it has often been contended that the dealer's right of lien only extended to the amount due under the second bill.

Unfortunately, up to this time the courts have never passed on this point and the New York statute which gives

a lien to dealers has not been legally construed.

In one case in New York where the person had sold a car and taken a mortgage from the buyer brought a replevin action against a garageman who had repaired the car, given up possession and then retaken the car, the court held that the garageman's lien was revived by the re-taking. In that case the court intimated that if the action had been between the dealer and the owner, the lien might have been revived by the re-taking, but this bond has never been passed out of all the New York courts.

#### May Retain Vehicle

Those who contend if a motorist who owed a bill for work done several months ago brought his car to a garageman for further repairs that the garageman would have a lien for the old bill as well as the new, arrive at their decision because of the provision in the lien law which says: "*A person keeping a garage, etc., has a lien upon such motor vehicle for the sum due and may retain such motor vehicle AT ANY TIME it may be lawfully in his possession, until such sum is paid.*"

They contend that the lien law is plain and that it gives a garageman a lien any time the car is lawfully in his possession until he is paid.

Before this statute was enacted, garagemen had a common law lien for storage and repairs, but that lien was lost where the owner was allowed to take the car out. Thus, before the present enactment, garagemen had practically no lien where cars were kept on live storage.

It was to remedy this that the law set out above was passed.

Those who claim that under the circumstances outlined above the garageman has a lien only for the new bill say that, although it is true that the law provides a garageman has a lien on a car at any time he may be lawfully in possession of it, this means before the transaction is concluded, that is, during the time a motorist keeps his car in a garage and that the garageman's lien attaches every night that he brings it back to the garage even though he may take it out every day. When the car is finally voluntarily given up by the garageman, however, the transaction is ended and the lien is waived.

Those who uphold the latter view allege that when a lien is once waived it is waived forever, and they say that

where a car is voluntarily surrendered the provision of the law that a garageman may have a lien at any time a car is in his possession does not apply, because it relates only to a case where the deal between the owner and garageman are not terminated.

If I were a dealer I would certainly hold the car after it came into my possession a second time. On the other hand, if I were the customer I would demand that the car be surrendered to me. The court may favor either stand, but from the looks of things at the present time it is likely to decide in favor of the dealer.

### The Judge Allowed \$48

A good example of the difference between the amount claimed by a dealer, the amount actually allowed to him by a court and the amount which the other side concedes to be due is the following New York case:

A car owner sent a car to a garage to be repaired and painted. When the repairman would not give the car up the car owner brought a replevin action. The only question in the case was the value of the labor and material furnished by the dealer for which he was entitled to a lien. The dealer claimed that there was \$326 due him excluding the cost of a new battery valued at \$48. The judge allowed him only \$85, however, while the car owner's attorney in his brief on the appeal admitted that there was at least \$106 due from his client. The appellate court pointed out that the only testimony in the trial court as to the value of the materials and services was given by an expert workman employed by the dealer who had done most of the work on the car, and that his testimony showed that the amount due was considerably more than the amount admitted by the owner's attorney, which amount was considerably more than the amount which the trial court had allowed.

### Can't Regulate These

Judge Swearingin of the Court of Civil Appeals of Texas, in a recent case tried before him, held "the business of renting driverless automobiles to the public for temporary use over the streets of a city is not a private use by an individual of his property over which the police power of the city cannot be exercised."



# The RETAIL NEWS

## EAST

Wood St. Cyr Repair Co. has completed a large brick garage at No. 91 Ann Street, Hartford, Conn. Fred J. Wood and Wilbur B. St. Cyr, late of the City Auto Repair Co., are the organizers.

Ennis Auto Top Co., 22 Elm Street, Hartford, Conn., has taken over the entire building for body repairing and building.

Pilot Motor Car Co., of Richmond, Ind., is opening an agency at 1536 Race Street, Philadelphia. The concern will be known as the Pilot Sales Co. of Philadelphia.

T. Beatty and Rue T. Beatty, formerly of the Kane Motor Sales Co., Kane, Pa., have opened a garage and repair station at 107 Fraley Street, Kane, Pa., on their own account.

American Service Corp., formerly of North Broad Street, Philadelphia, agent for King cars, now is established in its new showroom and service station at 202-204 North Broad Street.

## MIDDLE WEST

Ralph F. Schneider Auto Truck Sales Co., Detroit, distributor of the Dearborn Smith line of commercial cars, has taken over the Bethlehem line for this territory.

White Motor Sales Co. and the Stewart Products Service Station, Toledo, opened Monday in a new home on Jefferson Avenue.

Ralph Schneider Auto Sales Co., Detroit, has acquired the distributor for Detroit and surrounding territory for the Bethlehem truck.

John S. Parsh, Paul Bogardus and John Camplan, Grand Rapids, Mich., have just returned from France and have opened up a garage and repairshop, to be known as John S. Parsh & Co.

F. H. Selbert and J. W. McCain, Springfield, Ill., have opened an automobile accessory store at 314 East Adams Street, and will also be distributors for the Essenkay Tire Filler in the Sangamon county territory.

Reliable Tire & Vulcanizing Co., Rockford, Ill., located at 811 East State Street, has opened a branch store at the corner of Main and Mulberry Streets.

H. Y. Hensley, Clinton, Ill., has opened a garage and sales agency at 205 North Center Street and will be distributor of the Hupmobile in De Witt County.

Hughes Motor Co., 495 Broadway, Milwaukee, has been appointed distributor of the Stanley steam car and the Dixie Flyer in the Wisconsin and Northern Michigan territory.

Wisconsin Auto Repair Co., Milwaukee, has been incorporated with a capital stock of \$5,000 to engage in rebuilding, repairing, and selling of new and used motor vehicles. The incorporators are William A. Trimberger, Lawrence A. Eckstein and Willett M. Spooner, attorney.

Schueler Bros., Milwaukee, Wis., for many years engaged in manufacturing motor vehicle bodies of all kinds, and recently appointed distributors of Hood tires, have opened an office, display room and service

station for this department at 464 Milwaukee Street, for wholesale and retail business.

## COAST

Wm. W. Forrest, a former racing driver and mechanic, and Merton E. Titus, an electrical engineer, have become partners and opened a general repair shop at 5131 Mission Street, San Francisco, as the Peninsula Auto Repair Shop. They will also handle the Westcott car.

J. N. Clemens has disposed of his interest in the Motors Distributing Co. to J. C. Hadley, who becomes president of the company, and S. S. Rowell has been elected secretary and treasurer. The company will continue to distribute Indiana trucks and have added the Trundaar tractors. Headquarters will continue at 1242-1246 Mission Street, San Francisco.

George Dunbar has established the Daly City Vulcanizing Works at 6630 Mission Road, Daly City, Cal.

Arthur Del Tredici and Vincenzo Pantaleoni have opened the P & D Tire and Vulcanizing Co. store at 4791 Mission Street, San Francisco.

The Army Garage at 3101-3104 Mission Street, San Francisco, has been formally opened with O. Werner as proprietor.

F. Herman has become the owner of the Motor Inn Garage at 1267 Bush Street, San Francisco.

Truck Tire Service Co. of California has opened a Goodyear solid tire service station at 999 Geary Street, San Francisco, with R. W. Wittschen, formerly of the Columbia garage, as manager.

W. R. Jost and H. R. Waterman have formed a partnership under the name of Jost-Waterman Tire & Rubber Co. and opened at 1243 Sutter Street, San Francisco.

## NEW GARAGES

Union Garage ..... Cleveland  
Euclid-Forth-Sixth St. Garage...Cleveland  
Van Doren-Overland Co. ....Rhinelander, Wis.  
Otto L. Richter (60 x 100)...Weyauwega, Wis.  
Peters & Jacobs (30 x 120)...Shell Lake, Wis.  
E. C. Erickson & Son.....Chetek, Wis.  
Edmund Dode (60 x 150)...Beaver Dam, Wis.  
L. Nehrbass (add. 30 x 115)

640 Oakland Ave., Milwaukee, Wis.  
William Loeffler (40 x 80)

826 St. Clair Ave., Sheboygan, Wis.  
Wisconsin Auto Repair Co. ....Milwaukee, Wis.  
Lohr-Ford Auto Co. (60 x 110)

Hartford, Wis.  
Chamberlain Auto & Supply Co.

Chamberlain, S. D.  
Wentworth Garage (addition)

Wentworth, S. D.  
Otton Collins.....Miller, S. D.

Charles & Jac. Schrag.....Freeman, S. D.  
R. M. Baskerville.....Clark, S. D.

W. W. Hamilton (sales).....Faulkton, S. D.  
William Nitz.....Big Stone, S. D.

Frank Smith (tireshop).....Humboldt, S. D.  
Milkie Bros.....White River, S. D.

Hicks & Helm (addition).....Java, S. D.  
John Urban.....Phillip, S. D.

H. B. Darling.....Timber Lake, S. D.  
R. C. Jackson (vulcanizer).....Beresford, S. D.

C. R. Merrick (tireshop).....Groton, S. D.

Holler & Johnson (service)....Newell, S. D.  
W. H. King Automobile Co. ....Mitchell, S. D.  
Arlington Motor Co. ....Arlington, S. D.  
Henry Homan.....Sioux Falls, S. D.  
Thompson-Lewis Co. (service)

Meckling, S. D.  
C. F. Krieger (accessories), Sioux Falls, S. D.

Clear Lake Auto Co. ....Clear Lake, S. D.  
Phillips Smith & Son.....Sioux Falls, S. D.

R. O. Duncan.....Hudson, S. D.  
Johnson-Waldow Co. ....Willow Lakes, S. D.

Phillip Tire & Auto Co. (sales) ..Phillip, S. D.  
Goodwin & Peters.....Vivian, S. D.

T. Thompson.....Clark, S. D.  
W. H. Heki.....Hayti, S. D.

George Braidwood.....Yankton, S. D.  
P. A. Orth.....Menno, S. D.

M. D., T. M. & N. C. Gandy ..Webster, S. D.  
Chris. Helmer (vulcanizer) ..Highmore, S. D.

Ray Bros.....Highmore, S. D.  
Coleman & Bros.....Wasta, S. D.

W. Weihe.....Custer, S. D.  
C. P. Williams.....Marion, S. D.

Nielson & Bade (repairshop) ..Yankton, S. D.  
Macy & Martin.....Springfield, S. D.

J. P. Anderson.....Winner, S. D.  
Wilson & Williams (repairshop)

Litchfield, Minn.  
William Healy (repairshop) ..Chisholm, Minn.

Flore & McCorquodale.....Delhi, Minn.  
James Darling.....Lindstrom, Minn.

Walter Jackman.....Freeborn, Minn.  
Walter Vogtman (tireshop)

Park Rapids, Minn.  
LaFond & Brick (addition)

Little Falls, Minn.  
L. M. Olson.....Warren, Minn.

C. J. Osborne.....Montevideo, Minn.  
Schlagel & Otto (addition)

Clara City, Minn.  
M. Hansen.....Hutchinson, Minn.

Gust. Bork.....Ormsby, Minn.  
Gilbert Marchildon ..Red Lake Falls, Minn.

A. T. Holland (tireshop).....Ada, Minn.  
R. D. Kruger (sales).....Red Wing, Minn.

Wilson & Williams (repairshop)  
Willmar, Minn.

Syreen Bros. (filling station)  
Ironton, Minn.

B. T. Evans & Co. ....Deer Creek, Minn.  
Wallin & Tharrien.....North Branch, Minn.

Stone & Schurf.....Witoka, Minn.  
Battery Service Co. ....Little Falls, Minn.

Felix Lemoine.....Cook, Minn.  
W. S. Atkinson.....Barnesville, Minn.

Matteson & Johnson ..Sturgeon Lake, Minn.  
L. T. Thienes.....Little Falls, Minn.

F. G. Smith (repairshop) ..Warren, Minn.  
John Ahrens (tireshop).....Gaylord, Minn.

Melander Motor Co. (sales), Moorhead, Minn.  
Nelnow & McClure.....Plainview, Minn.

L. P. Kingston.....Hastings, Minn.  
J. O. Kaass.....Wendell, Minn.

N. G. Lenarz.....Albany, Minn.  
Farrell & Weed (repairshop)

Ortonville, Minn.  
Tyler Auto & Machine Co. ....Tyler, Minn.

Kennedy Service Garage (salesroom)  
Red Wing, Minn.

C. E. Lainsley (sales).....Virginia, Minn.  
Hopper & Kilch.....Remer, Minn.

John Carson.....Two Harbors, Minn.  
John Make.....Park Rapids, Minn.

Johnson & Thune (tireshop) ..Willmar, Minn.  
Rudolph Iverson (accessories) ..Hills, Minn.

Hughes & Gildemeister (addition)  
Grand Rapids, Minn.

Stanley Kobylinski.....Bowling, Minn.  
N. W. Oil Co. (station).....Duluth, Minn.

Bohn & VanRyder (sales).....Winona, Minn.  
James Lafr.....Taylors Falls, Minn.

J. A. Matthews.....Graceville, Minn.  
Carl Knutson.....Ellendale, Minn.

H. H. Ley.....Olivia, Minn.  
E. E. Norton.....Breckenridge, Minn.

Standard Oil Co. (station) ..Cleveland, Minn.  
Michael Bruder.....Long Prairie, Minn.

Charles Newberg.....Bock, Minn.



A. D. Forsythe.....Barnesville, Minn.  
 Bourke & Noggle.....Royalton, Minn.  
 Boyle & Mather.....Gilbert, Minn.  
 Rousch & Winteer.....Mankato, Minn.  
 F. J. Klaseus.....Kasota, Minn.  
 Nelson & Baarsgaard.....Barnesville, Minn.  
 Andrew Moe.....Hills, Minn.  
 William Hetzel.....Douglas, Minn.  
 M. Bendell (tire shop).....Rushford, Minn.  
 Hall & Levy (service).....Wells, Minn.  
 Ross Russell (repairshop)

Stewartville, Minn.  
 Satran & Olson (tireshop)....Fosston, Minn.  
 M. J. Schneider (tireshop)..Royalton, Minn.  
 W. H. Thompson (tireshop)

Pine River, Minn.  
 Henry Millberg.....Dassel, Minn.  
 Ernest Puhlmann.....Springfield, Minn.  
 Henry Beach.....Stillwater, Minn.  
 W. F. Kasper.....Fairmont, Minn.  
 Theide & Koch.....Montevideo, Minn.  
 R. Snakenberg.....Kiester, Minn.  
 W. H. Cox.....Swanville, Minn.  
 Gunder Bondhus.....Lake Wilson, Minn.  
 W. F. Sparro.....Byron, Minn.  
 C. R. Gehl (oil station)....Pine City, Minn.  
 Frank Lenzmel.....Shakopee, Minn.  
 John Carson (repairshop)

Two Harbors, Minn.  
 P. A. Aldrich (50 x 100)..Battle Lake, Minn.  
 W. H. Loomis.....Little Falls, Minn.  
 G. H. Tideman.....Albert Lea, Minn.  
 Kretsch Auto Co.....Mankato, Minn.  
 Florence Auto Co.....Florence, Minn.  
 T. N. Nelson (repairshop)

Wanamingo, Minn.  
 Boyle & Mather.....Gilbert, Minn.  
 James Maxa.....Jordan, Minn.  
 C. J. Aronson.....Ellendale, Minn.  
 Samuel Berndt.....Le Sueur, Minn.  
 F. N. Addleman (paintshop)

Hastings, Minn.  
 Ed Steene.....Ellendale, Minn.  
 F. J. Lewis.....Clinton, Minn.  
 Barta Bros. (battery service)

Lonsdale, Minn.  
 A. A. Dickenson.....Donnelly, Minn.  
 Busch & Bischof.....Eden Valley, Minn.  
 Knutson & Sons.....Garfield, Minn.  
 J. P. DeReese (sales).....Milaca, Minn.  
 Martin County Battery Co...Fairmont, Minn.  
 R. B. Dwyer, 630 N. 59th Ave. W.

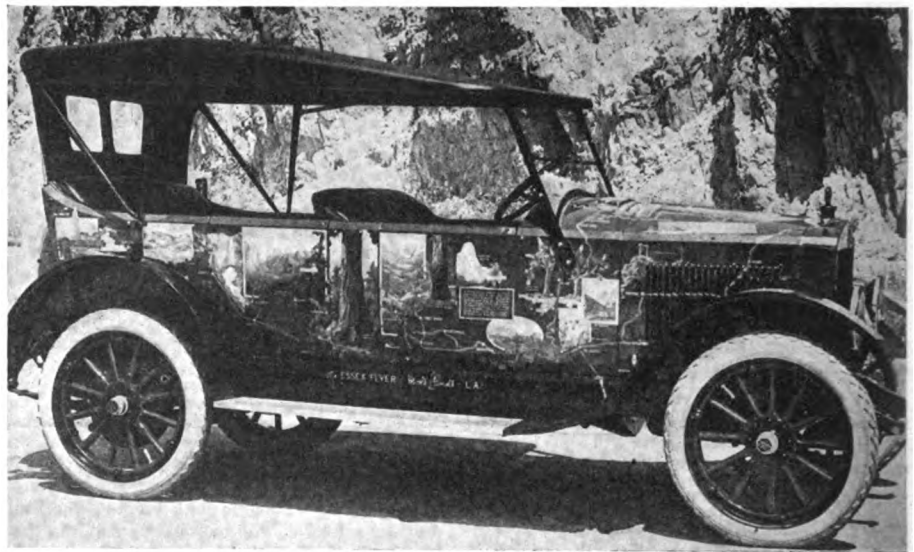
Duluth, Minn.  
 Charles Newberg.....Ogilvie, Minn.  
 Phil Kiefer (tireshop)....Moorhead, Minn.  
 Noltmire & O'Neal.....Minneota, Minn.  
 Vander Pol Bros.....Edgerton, Minn.  
 Lloyd Rowland (tireshop)....Mankato, Minn.  
 Jackson Street Garage.....Anoka, Minn.  
 H. W. Vogel.....Cokato, Minn.  
 Fred. Butler.....Jeffers, Minn.  
 H. F. Karsburg (tireshop)..St. Cloud, Minn.  
 Duffy & Stevens.....Montrose, Minn.  
 Marshall Radiator & Repair Co.

Marshall, Minn.  
 Automobile Sales Co.....Hibbing, Minn.  
 Selmer Wick.....Hendrum, Minn.  
 Colling Bros.....Mazeppa, Minn.  
 Foster-Raetz Electric Co...Rochester, Minn.  
 Paul Ringwelski (tireshop)

Little Falls, Minn.  
 Sorvig Bros. ....Winger, Minn.  
 Delano Auto Co.....Delano, Minn.  
 Automobile Battery & Electric Co.

Crookston, Minn.  
 O'Donnell & Elkstrom (tireshop)

Winona, Minn.  
 Lynch & Co. (\$20,000)....Wheaton, Minn.  
 R. C. Wheeler (accessories)..Wheaton, Minn.  
 Wygant & Jipson (repairshop)..Mora, Minn.  
 Paine & Jelms.....Minneapolis  
 Alexander Waibel.....Searles, Minn.  
 Chris Schwager.....Fairmont, Minn.



HERE is an example of one of the most rare and refined bits of advertising on record in Los Angeles, where many innovations in the way of publicity originate. It is an Essex car that is being used for show purposes by Harold L. Arnold, distributor in Southern California. The body, fenders and hood have been painted with the outline of road routes and pictures of the principal scenic attractions are shown. The car was decorated by Charles Hamilton Owens, a celebrated California scenic artist, and all the paintings are in oil and varnished. It is in reality a pictorial travelogue and whenever the car appears on the streets crowds gather to inspect it. The remarkable fidelity of detail in the paintings, natural colors having been used, always creates comment.

On the right side of the car is shown the route from San Francisco to Los Angeles via the San Joaquin valley, with side trips to King River, Yosemite Valley, and the Big Trees. On the lower half of the windshield is Lake Tahoe. The radiator spout represents Salt Lake City and the top of the hood is ornamented by scenes from the Owens River country and the high Sierras. On the left side the National Old Trails Route from Los Angeles to Albuquerque is depicted. Joshua trees in blossom on the Mojave desert, the Grand Canyon, Painted Desert, Petrified Forest and the Continental Divide are shown. The Apache Trail, Roosevelt Dam, Mt. Lassen in eruption and Mt. Whitney, all are reproduced.

Campbell & Son.....Fosston, Minn.  
 Forsman & Seebach.....Crosby, Minn.  
 Hagen & Thykenson.....Ulen, Minn.  
 D. C. Harrington (sales)....Pipestone, Minn.  
 A. E. Nelson.....Grove City, Minn.  
 Scobbo & Bolland (repairshop)

Madison, Minn.  
 Peterson & Johnson.....New London, Minn.  
 Fairmont Auto Co.....Fairmont, Minn.  
 Thomas Smith.....Rose Creek, Minn.  
 Sheldrup & Olson.....Pelican Rapids, Minn.  
 Knute Knutesen.....Geneva, Minn.  
 C. F. Roth.....Henderson, Minn.  
 Astoria Merc. Co.....Canby, Minn.  
 A. E. Nelson.....Grove City, Minn.  
 Johnson, Skelton & Co.

Sturgeon Lake, Minn.  
 E. O. Nelson.....Willmar, Minn.  
 John Egan, 1610 Lyndale Ave. N.

Minneapolis  
 George Woods.....Lavinia, Minn.  
 J. Bendal (tireshop)....Rushford, Minn.  
 Joseph Mirau.....Crosby, Minn.  
 Thompson & Burke.....Rapid City, S. D.  
 Tempel Garage.....Marion, S. D.  
 Hodgins-Mannix Motor Co.

Sioux Falls, S. D.  
 Black Hills Machine Co. (75 x 40)

Rapid City, S. D.  
 Thompson & Burke.....Rapid City, S. D.  
 C. A. Wood.....Long Prairie, Minn.  
 J. F. Petchel.....Lake City, Minn.  
 B. O. Rourke (addition)....Duluth, Minn.  
 V. M. Owen Co.....Hines, Minn.  
 L. H. Mattson.....Deerwood, Minn.  
 Dickey & Langer (addition)

Fairbault, Minn.  
 Zarling & Boeler.....Breckenridge, Minn.  
 W. F. Betterman.....Milton, Minn.

E. D. Eckert.....Albert Lea, Minn.  
 F. S. Schwalen (addition)...Triumph, Minn.  
 Edw. Anderson.....Dassel, Minn.  
 Herman Kohls.....Belview, Minn.  
 Bergeren & Johnson.....Cook, Minn.  
 Kneuppel & Ehlers..Mountain Lake, Minn.  
 Svendsen & Jorgensen.....Tyler, Minn.  
 Oscar Thordal (addition)....Gary, Minn.  
 R. N. Aarestad.....Dawson, Minn.  
 J. H. Sullivan.....Mahnommen, Minn.  
 Hawley Motor Co. (addition)..Hawley, Minn.  
 Olson & Ramstead.....Washburn, Wis.  
 Greiner-Nash Sales Co. 266-268 Wisconsin St.,  
 Kenosha, Wis.

O. S. Porter.....Berlin, Wis.  
 James A. Drummond (66 x 85) N. First and  
 N. Bluff Sts., Janesville, Wis.  
 Janesville Auto Co. (add 40 x 132)

Janesville, Wis.  
 Henry C. Klein (45 x 90)....Janesville, Wis.  
 J. Hamacheck & Son (add)

Two Rivers, Wis.  
 D. R. Schendel (53 x 135)....191 16th St.,  
 Milwaukee, Wis.

K. F. Fenning (50 x 76)....405 Lincoln Ave.,  
 Milwaukee, Wis.

Albert J. Stoltz (100 x 140)..209-215 Hanover  
 St., Milwaukee, Wis.

C. Milhaupt & Son (50 x 90)....Appleton, Wis.  
 Roepke & Beversdorf (50 x 90)

Biramwood, Wis.  
 J. F. Groth.....Guttenberg, Iowa  
 The Rose Motor Co.....Eagle Grove, Iowa  
 Weldinger and Lieuen Auto Co.

West Bend, Iowa  
 Bornhuldt and Paulsen.....Lester, Iowa  
 H. H. Johnson.....Greenville, Iowa  
 Herring Hotel Garage....Belle Plaine, Iowa  
 Warnstaff Garage.....Hamburg, Iowa  
 Star Garage.....Akron, Ohio  
 Windermere-Euclid Garage..Cleveland, Ohio



## Record Crowd Gathers for Convention of Automotive Equipment Association

**Every Train Brings Fresh Arrivals—"Wholesale Only" Question to Be Threshed Out—Members Look for Excellent Trade Year**

By Ray W. Sherman

**HOT SPRINGS, VA., June 2—**The present convention of the Automotive Equipment Association will be the biggest ever held since the organization was formed four years ago. Nearly six hundred reservations were made at the Homestead and the delegates have been arriving on every train for several days. While the general sessions will not begin until Wednesday morning there are already as many here now as have attended some of the previous conventions.

The interest as indicated by the attendance indicates a big future ahead for the association. Some of the members have been here a week and some two weeks enjoying the famous inland resting place.

To-day and to-morrow are devoted to committee meetings. One of the hardest worked committees is that on membership, for between fifty companies have put their names on the waiting list for membership. This will mean if all are elected, an increase of 15 per cent in membership.

Among the things which have created renewed interest in the association is the successful conclusion of the Sherman law criminal action on restraint of trade grounds brought by the Government.

Among those present is James H. Wilkerson, who headed the group of attorneys who successfully defended the jobbers.

Also, business is good and everyone sees nothing but a big year in automotive equipment. In some sections the weather and bad roads have delayed business and in most sections last month is not much ahead of the same month last year because the open winter started buying early and spread out over several months the orders that generally do not come until spring. But the year from January 1 is

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### NEXT WEEK

*Motor World will carry a complete report of the Convention.*

### WATCH FOR IT

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considerably ahead of last year and the trade is in unusually good condition.

All are agreed that the armistice came at a most opportune time for production. The trade had the winter months in which to adjust itself and everything was fairly well set when 1919 opened.

The Canadian jobbers and manufacturers are in about the same position as those in the United States. The roads in Canada have held things back but they are now going to move.

There are many things to come up at this convention, among them is the "wholesale only" policy for jobbers, the recommendation of which was laid over at the Chicago meeting last winter for further consideration at this meeting.

There is a strong sentiment in favor of it and even if it does not pass this time it probably will some day. There will also be discussion of the exhibit which will be held in the fall and which would have been held for the first time last fall had not the war interfered.

Various athletic and other events will be held, including golf and tennis. Card games will also be played.

There is the largest attendance of women ever present, quite a number of members being accompanied by their wives.

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#### Gas Engine Engineers Meet

CHICAGO, June 2—Attendance was smaller than usual at the first day's sessions of the National Gas Engine Asso-

ciation. The experiment of group sessions was tried for the first time, but with indifferent success. Hardly any of the speakers who were expected to be present the first day put in an appearance, and practically nothing of a constructive nature was accomplished.

The opening session this morning was devoted to routine business, including the annual address of the president. In this, reference was made to the more or less serious labor difficulties that were confronting the members of the association and the organization was admonished to consider these problems carefully. The president also suggested broadening the scope of the organization with a change of name, in order that manufacturers of all varieties of internal combustion engines might be admitted.

Various group meetings were scheduled for the afternoon, but hardly one of them did anything. The farm lighting section met and appointed a committee to consider an organization, but it was left to the future to determine whether it shall be affiliated with the Gas Engine Association or will go it alone.

Very few of the manufacturers of tractor engines were present to-day, and that group did nothing but hold an informal discussion of the labor situation, without taking any formal action.

The main group of the convention listened to addresses from J. E. Johnson, general manager of Deere & Co., on "Business Building," and from Floyd R. Todd of the same company on "The Trade Outlook."

Todd reiterated the assurances he has advanced at previous gatherings of business men, asserting that radical changes in price levels cannot be expected for an indefinite period. H. R. Brate, secretary of the association for a number of years, handed in his resignation, and it will be acted upon by the executive committee to-morrow.

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#### To Pool Fordson Tractors

CHICAGO, June 2—A majority representation of the Fordson dealers in the Rue Motor Co. territory, comprising northern Illinois and northern Indiana, met here to-day and decided to pool all unsold tractors now in the possession of the dealers in this territory and divide them up equally.

There are only enough tractors remaining unsold to give each of the 131 dealers about three machines. Such action is unprecedented in the tractor trade. Reasons assigned are that a new price will be announced on the Fordson soon and none wanted to be caught with any machines on hand. Also by cleaning the decks at this time the factory would be encouraged to resume production in time to meet the anticipated harvest demand. A telegram to this effect was sent Henry Ford and son.

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#### More Room for Hippee-States

DES MOINES, May 28—The Hippee-States Auto Supply Co. has leased the entire second floor of the building at Seventh and Mulberry Streets.



### Peugeots Run One, Three

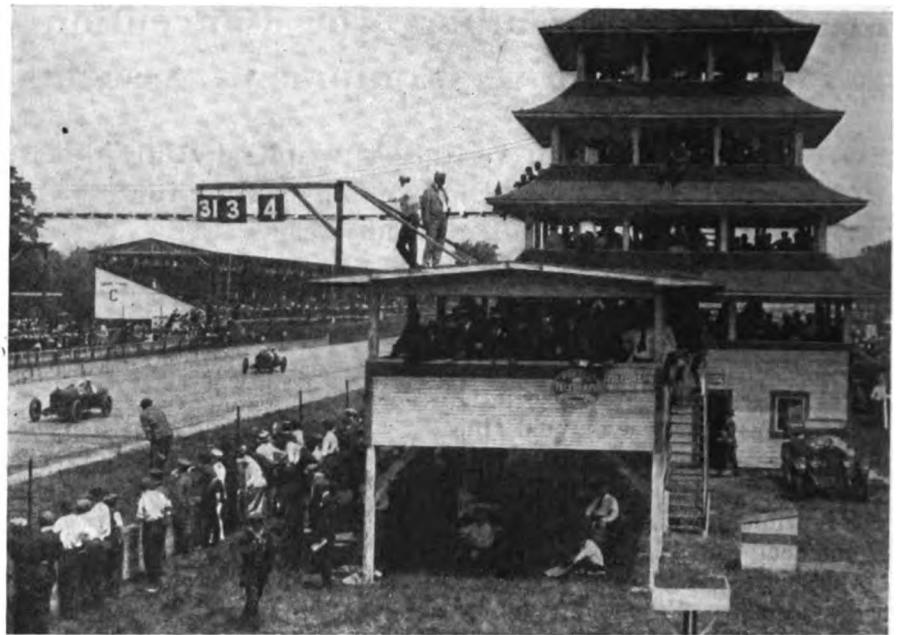
(Continued from page 9)

in chronological order became almost impossible.

The one hundredth mile saw three cars drop out. The pace set by the Packard was beginning to tell. Tires were being changed in wholesale quantities, oil lines were breaking and coming loose, magnetos were shaking from their bases, radiators losing all the water, and worse, the pace was so fast that the timers could not catch up to the drivers as they crossed and again crossed the wire.

At this stage of the run, Ralph Mulford dropped out, his Frontenac having broken the drive shaft. McCoy in the McCoy car was forced out because an oil line broke and repair facilities were

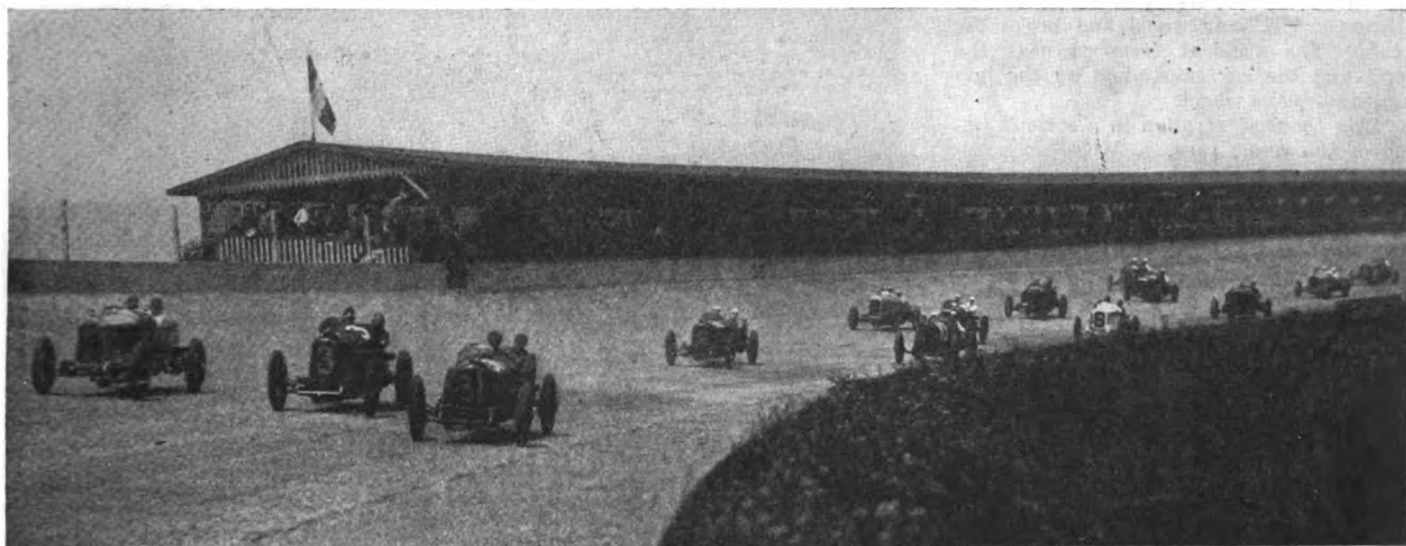
*This is a general view of the press stand and the pagoda that held the judges and the timing apparatus and timers*



## OFFICIAL TIME OF THE 33 STARTERS IN THE 500-MILE VICTORY

Car No.	Name of Car	Driver	25 Miles Hr Min Sec	50 Miles Hr Min Sec	75 Miles Hr Min Sec	100 Miles Hr Min Sec	125 Miles Hr Min Sec	150 Miles Hr Min Sec	175 Miles Hr Min Sec	200 Miles Hr Min Sec
1	Chevrolet	Clif. Durant	0:20:00.40	0:36:10.25	1:01:19.90	1:17:58.00	1:35:03.35			
2	Frontenac	R. Mulford	0:15:12.00	0:32:41.90	0:49:32.90					
3	Peugeot	H. Wilcox	0:14:56.25	0:30:54.45	0:48:34.90	1:04:53.50	1:21:20.45	1:37:55.95	1:54:23.25	2:10:00.00
4	Packard	R. De Palma	0:14:55.20	0:29:20.70	0:45:40.40	1:01:31.45	1:17:36.95	1:36:16.90	1:52:43.25	2:08:00.00
5	Richards	W. Brown	0:15:22.80							
6	Peugeot	Jules Goux	0:15:25.00	0:31:41.30	0:52:01.80	1:09:11.90	1:26:24.70	1:43:35.70	2:00:58.60	2:18:00.00
7	Frontenac	L. Chevrolet	0:15:05.70	0:29:29.90	0:46:01.65	1:02:32.50	1:18:59.80	1:37:01.70	1:52:23.90	2:09:00.00
8	Stutz	Earl Cooper	0:14:57.65	0:31:00.90	0:47:41.90	1:04:29.90	1:21:20.80	1:38:16.75	1:55:09.85	2:11:00.00
9	Duesenberg	Tom Milton	0:15:28.10	0:31:37.30	0:48:31.55	1:04:52.15	1:25:18.85			
10	Duesenberg	E. O'Donnell	0:15:27.20	0:32:01.85	0:48:57.90	1:05:41.85	1:22:59.90	1:40:27.70		
12	Roamer	Kurt Hitke	0:15:34.35	0:32:05.40	0:49:21.50	1:06:15.75	1:26:38.75			
14	Durant	Eddie Hearne	0:15:13.90	0:31:15.55	0:47:56.85	1:04:57.45	1:22:10.90	1:40:28.55	1:57:26.45	2:14:00.00
15	Roamer	L. Le Cocq	0:15:31.00	0:32:02.00	0:48:59.85	1:05:37.95	1:23:13.90	1:40:24.90	1:57:10.10	2:13:00.00
17	Hudson	Ora Haibe	0:19:59.70	0:41:38.65	0:59:40.90	1:16:58.10	1:40:15.70	1:58:42.00	2:16:26.00	2:35:00.00
18	Thurman	A. Thurman	0:15:44.40	0:30:30.00	0:52:59.10	1:09:45.30				
19	Detroit	C. Kirkpatrick	0:16:01.70	0:39:58.85	1:08:01.80	1:29:37.65	1:49:12.35	2:16:06.00	2:48:55.50	
21	Stickel	D. Hickey	0:16:13.45	0:35:19.35	0:53:16.60	1:11:22.75	1:28:16.25	1:46:36.90	2:04:07.15	2:21:00.00
22	Duesenberg	W. D'Alene	0:15:18.45	0:30:21.20	0:47:38.20	1:04:43.90	1:22:10.20	1:39:41.25	2:02:03.90	2:17:00.00
23	Shannon	E. Shannon	0:17:09.80	0:35:45.35	0:54:05.80	1:12:12.40	1:32:05.40	1:50:03.55	2:07:36.90	2:24:00.00
26	Bender	Tom Alley	0:17:15.05	0:33:46.75	0:51:29.45	1:08:38.90	1:26:10.80	1:43:38.45	2:00:39.50	2:21:00.00
27	Hudson	Ira Vail	0:15:32.25	0:32:06.90	0:51:14.10	1:08:22.90	1:25:38.50	1:43:09.95	2:02:08.90	2:19:00.00
28	Oldfield	R. Sarles								
29	Peugeot	Art. Klein	0:15:21.20	0:33:49.90	0:51:27.35	1:08:45.55	1:26:05.95	1:43:27.85	2:19:18.45	
31	Ballot	Rene Thomas	0:14:56.75	0:30:55.30	0:47:16.95	1:05:09.50	1:21:29.90	1:38:45.20	2:05:39.95	2:21:00.00
32	Ballot	A. Guyot	0:15:08.85	0:31:08.95	0:47:45.35	1:04:20.90	1:21:13.90	1:44:56.30	2:02:00.90	2:18:00.00
33	Ballot	P. Bablot	0:15:29.50	0:31:24.15	0:47:17.95	1:05:03.75	1:25:18.30	1:42:24.45		
34	Ballot	L. Wagner	0:14:59.90	0:31:00.40	0:49:29.25	1:06:02.90				
36	McCoy	J. J. McCoy	0:20:26.25	0:39:41.25	0:59:04.85					
37	Baby Peugeot	A. Boillot	0:16:47.15	0:33:45.85	0:49:28.50	1:07:05.90	1:24:45.35	1:42:26.00	2:00:01.15	2:18:00.00
39	Frontenac	Joe Boyer	0:15:09.80	0:29:34.30	0:46:08.90					
41	Frontenac	G. Chevrolet	0:16:49.90	0:31:05.30	0:49:20.30	1:05:51.15	1:24:01.80	1:40:38.30	1:57:08.00	2:14:00.00
43	Toft	Omar Toft	0:16:46.10	0:34:35.50	0:52:53.75	1:11:36.90				
48	Peugeot	Ray Howard	0:16:04.20	0:33:01.35	0:50:26.70	1:07:58.10	1:25:55.50	1:44:43.80	2:17:25.55	2:34:00.00





*At the start the cars were all well bunched. This is the beginning of the first lap of the race*

## SWEEPSTAKES RACE ON THE INDIANAPOLIS SPEEDWAY, MAY 31

225 Miles Hr Min Sec	250 Miles Hr Min Sec	275 Miles Hr Min Sec	300 Miles Hr Min Sec	325 Miles Hr Min Sec	350 Miles Hr Min Sec	375 Miles Hr Min Sec	400 Miles Hr Min Sec	425 Miles Hr Min Sec	450 Miles Hr Min Sec	475 Miles Hr Min Sec	500 Miles Hr Min Sec	Pos. at Finish
2:26:10.50	2:42:08.75	2:58:57.20	3:18:45.50	3:35:27.75	3:51:56.90	4:08:27.55	4:25:31.16	4:42:57.15	5:05:02.40	5:22:35.65	5:40:42.87	1
2:24:15.90	2:40:18.40	3:15:26.40	3:31:56.85	3:46:44.80	4:03:07.80	4:19:38.25	5:04:04.90	5:20:42.70	5:37:27.90	5:53:58.30	6:10:10.64	6
2:35:53.35	2:53:08.20	3:12:58.30	3:30:05.45	3:47:41.10	4:04:56.90	4:22:01.75	4:40:22.35	4:57:26.30	5:14:36.93	5:31:42.40	5:49:06.18	3
2:28:48.50	2:45:27.75	3:27:11.30	3:46:03.00	4:06:07.10	4:23:58.50	4:43:04.85	5:01:50.30	5:19:03.20	5:37:37.90	5:53:58.75	6:10:10.92	7
2:28:24.45	2:47:29.95	3:05:35.45	3:23:36.35	3:55:43.95	4:13:45.65	4:34:15.15	4:59:56.30	5:20:36.35	5:42:10.15	6:02:58.60	6:21:35.05	
2:31:27.00 2:29:48.25 2:53:35.90	2:48:16.10	3:05:34.60	3:25:09.95	3:42:12.85	3:59:12.55	4:16:23.50	4:33:28.95	4:50:31.00	5:08:03.20	5:26:20.10	5:44:29.04	2
2:40:19.40	2:59:28.90	3:23:55.45	3:43:27.75	4:02:48.45	4:21:24.35	4:41:40.00	5:00:21.25	5:18:52.65	5:37:46.55	5:56:01.60	6:13:57.24	9
2:34:54.70	2:53:10.50	3:12:28.65	3:33:22.90									
2:46:47.30	3:06:25.60	3:26:24.80	3:48:48.60	4:08:05.25	4:27:12.20	4:48:08.25	5:09:43.35	5:31:12.90	5:50:35.80	6:12:14.65	6:30:50.75	
2:38:59.50	2:56:45.00	3:14:23.15	3:31:55.85	3:49:26.90	4:06:38.20	4:26:02.65	4:43:32.75	5:09:31.85	5:27:47.70	5:46:12.85	6:05:03.92	5
2:37:04.25	2:56:57.70	3:15:44.80	3:34:35.90	3:53:30.90	4:12:18.10	4:34:29.35	4:53:56.30	5:13:28.00	5:33:19.35	5:53:42.90	6:12:42.85	8
2:41:07.00	3:07:33.20	3:25:43.90	3:44:25.60	4:03:39.60	4:28:42.55	4:47:03.55	5:05:19.90	5:23:58.35	5:42:30.30	6:00:48.00	6:21:10.92	
2:37:31.80	2:54:48.35	3:12:35.90	3:34:52.90	3:52:20.85	4:09:47.65	4:26:55.35	4:45:58.28	5:03:03.35	5:20:10.93	5:38:38.55	5:55:16.27	4
2:34:25.00	2:51:26.50	3:09:03.85	3:26:24.80	3:43:57.40	4:04:17.95	4:22:09.25	4:40:03.60	5:00:54.15	5:18:24.40	5:35:54.75		
2:33:32.30	2:49:52.50	3:06:41.90	3:23:26.45	3:39:53.70	3:57:13.10	4:25:47.35	4:42:09.30	5:09:38.25	5:43:36.95	6:00:20.90	6:17:21.79	10
3:09:10.50	3:32:47.90	3:53:50.85	4:21:07.75	5:18:28.85								



not at hand. Joe Boyer in his Frontenac threw a left rear wheel and broke the axle. The accident occurred near the pits and the car coasted in on the hub of the broken wheel.

This accident resulted in a serious tie-up of the whole race.

The car crossing the timing wire with its broken wheel cut the timing wire. Omar Toft in his Toft Special was following Boyer. The wire released from the tension of the springs curled up in the air and struck Toft, cutting him severely in the throat and opening the jugular vein.

Toft was bleeding profusely, but continued to drive his car. He was forced to stop for medical attention though in the thirtieth lap. Inspection showed that he was injured rather severely and therefore did not continue the race.

The breaking of the timing wire also caused some commotion in the timing stand. A new wire was hastily substituted and the click of the chronometer continued.

About 1.45 De Palma was still in the lead, having covered about 250 miles, when he came in for a stop that lost him first place. He changed all tires, put in a few new spark plugs, filled the tanks, and replaced a valve that had stuck. Wilcox, who had been driving very carefully, and apparently without any effort on his part to maintain his position so close to the front, moved into first. His car was in good condition, and was giving no trouble. This place he held until the race finished.

After De Palma had repaired his car the crowd was introduced to an exhibition of speed. The Packard was purring in a regular manner in its high pitched tone. Wilcox was nine laps ahead of De Palma. But this distance was decreased considerably at the start. The Peugeot was not left behind on the straightaways, for there it held its own, but on the turns Ralph was seen to pull away slowly.

After the 300-mile mark had been passed it became a question of who was going to take second place. Wilcox in the Peugeot was not making many pit stops. His third one had just been made. He had gasoline and oil enough to carry him through, his tires were new, and he was about 6 minutes ahead of Gaston Chevrolet.

Chevrolet's Frontenac was not going strong enough to lap Howdy three times in the distance that remained, so second place became a matter of conjecture.

About this time the last man to quit the race was D'Alene. His car broke an axle. D'Alene's Duesenberg lasted just twice as long as the other two Duesenbergs driven by Tom Milton and Eddie O'Donnell, these two dropping out in the forty-ninth and fifty-seventh lap, respectively, while D'Alene lasted for about 120 laps. There were now remaining in the race fifteen cars. All of these finished except the Baby Peugeot and it was flagged off the track after the fourteenth car had completed its 500 miles.

The race was not one of bloodless aspect. There were three men killed, and the partner of the fourth may die. The Roamer driven by Le Cocq entering the



*And this will give some idea of the press of cars along the rail*

back stretch on its ninety-sixth lap had a disastrous accident. The gasoline tank exploded, the car overturned and the two men were killed instantly.

Arthur Thurman, driving his own car, was killed when it overturned after having gone about 110 miles. His mechanic, Robert Bandini, was badly hurt, suffering a fractured skull. Chas-saigne relief driver for Bablot was pushing the Ballot around its sixty-third time when the car overturned. No one was seriously injured and the car was brought in under its own power. Louis Wagner barely averted a tragic accident when his car collided with the wall, swinging him out of his course somewhat, though he managed to keep the car under control and continued.

Wilcox, coming across the wire first for the 500 miles, won \$20,000. His time of 5 hours 40 min. 42.87 sec. did not set a record for the track, averaging only 87.95 m.p.h. This was bettered by DePalma, when he drove his Mercedes over the line some years ago at better than 92 m.p.h.

In the history of the track there never has been such a close claim for a place as that between Louis Chevrolet and DePalma for sixth place. Louis Chevrolet's time was 6 hr. 10 min. 10.64 sec., while DePalma's time was 6 hr. 10 min. 10.92 sec. The last man to finish within the money was Rene Thomas, the man who set the record for speed on the track during the tryouts. At this time he made a lap at 104.7 m.p.h., but during the race he was not able to show up so well.

#### F. W. D in Canada

CLINTONVILLE, WIS., June 2—J. D. Cotton will be president of the new corporation just formed to take care of F. W. D. truck production in Canada as a branch of the Four Wheel Drive Auto

Co. of this city. Henry Nyberg is vice-president and sales manager; Archie Kerr is secretary, and W. G. Cleghorn treasurer. The officers, with E. C. Kahel, W. T. Barrie and H. J. Sims, form the board of directors. Of the \$200,000 capitalization, \$100,000 of the stock is held by the Wisconsin company. A site is to be selected and building operations commenced immediately on a structure to be 200 x 120 ft.

#### McClure Manages Des Moines Ford

DES MOINES, May 28—Three hundred Ford dealers in the Des Moines territory met in Des Moines last Friday to greet the new manager of the Des Moines branch, F. E. McClure. The affair was also made the occasion for a thorough explanation of the new Ford starter and a factory expert was present to demonstrate it for the dealers.

#### Goodrich Increases Mileage Guarantee

NEW YORK, June 2—The B. F. Goodrich Rubber Co. has revised its adjustment schedules on both fabric and cord tires. Effective at once, fabric tires are to be guaranteed 6000 miles instead of 3500 and cord tires 8000 instead of 5000 miles. Goodrich tires already in the hands of purchasers, no matter when they were purchased, will be adjusted under the new mileage guarantee.

#### Canadian Traffic Men Here

ST. LOUIS, May 31—Two Canadian distributors of the Traffic Truck were in St. Louis this week. Edwin Hill, president, and Albert Hill, secretary of the Motor Sales and Machinery Co., Ltd., Port Credit, Ont., placed an order for 45 trucks. Mr. Anderson of the Anderson Brothers Co., Champion, Alberta, Sask., ordered 100.



# News Letters From Busy Centers

## The Week in Indianapolis

By John Orman

### Indianapolis Automobile Trade Association

INDIANAPOLIS, May 31—The Gibson Welfare Association, an association composed of some 200 employees of the Gibson Co., conducted another of its social events here this week, and it was very successful. A musical entertainment and dance were the principal events. Plans were formulated for a big annual outdoor picnic of the association, which will be held early this summer.

Plans were announced yesterday for two more new automobile salesrooms, to be added to our Meridian Street automotive row. Each room will have a frontage of 50 ft. and a depth of 145 ft.

New machinery is being installed in the plant of the Holton Tractor Co., a company recently organized here; a tractor a day is the schedule announced. John Dittbreimer, formerly superintendent of the Stutz Motor Car Co., has been appointed factory and production manager.

Dan V. Goodwin, formerly a newspaper man, and advertising manager of the Indiana Tractor Co., has been appointed district sales manager for the Robt. H. Hassler, Inc. Goodwin will open up a sales and service station on east Washington Street, near the Ford Motor Co. plant, from where he will distribute the Hassler shock absorber throughout the state.

L. H. Wright, director of the Indiana State Highway Commission, has received a telegram from the Federal Roads Bureau, United States Department of Agriculture, Washington, advising him that 149 army trucks are ready to be turned over to the Indiana State Highway Commission. These trucks will not be used this year, as the commission does not contemplate doing any of its own construction this year. They, however, will be stored, and used next year in the road maintenance department.

A. N. Lyon has been appointed Field Secretary of the National Automobile Dealers' Association, with headquarters in Indianapolis. He will cover the territory of Indiana and Illinois in the interests of the association, and we feel that his activities in this field will bring into N. A. D. A. many new members from Indiana. For the time being Lyon will have his headquarters in the offices of the Indianapolis Auto Trade Association.

Our association forwarded a protest to Daniel C. Roper, Commissioner at Washington, protesting against his ruling making a truck chassis a "part,"

and subject to a 5 per cent war tax. This telegram was followed by a set of resolutions, signed by all the truck dealers.

Later a wire, signed by Roper, was received saying that the ruling would be reconsidered. We are calling another meeting for this week to ask everybody who is interested in the automotive industry to sign a further protest.

## The Week in Philadelphia

PHILADELPHIA, May 31—While sales slowed up a bit during this week of warm weather, most of the passenger car dealers in North Broad Street, Chestnut and Market Streets report an increase in inquiries.

Motor truck dealers and distributors report business still very quiet. Indications are, however, that when the highway legislation is all straightened out, there will be a big impetus in buying, as undoubtedly many, owing to uncertainty over truck restrictions as suggested at Harrisburg, are holding off buying trucks.

Within the next few days Governor Sproul is expected to sign the Dithrich motor vehicle bill, which has just passed the senate. This measure provides for many changes in the licensing, registration fees and general regulation of motor vehicles, replacing the law of 1913. The Motor Truck Owners' Association of Philadelphia is credited with having brought about modifications of some of the sweeping restrictions originally appearing in this bill.

The Penn-American Motor Car Co., of which George Allison Brower is president, celebrated the first anniversary of its American Six representation in Philadelphia with a banquet at the Rittenhouse Hotel. Dealers as well as factory representatives and members of the New York organization attended. Among the speakers were Robert Bursner, president of the American Motors Corp.; Proctor H. Hause, vice-president and treasurer; L. H. Ripe, production manager; Lee J. Cropley, sales manager, and Jack Thomas, of the New York branch. At the conclusion of the banquet, a novel "stunt" was the departure of several dealers by "driveaway," in American Sixes, recently purchased.

"Automobile Row" was well represented in the return, this week, of the Pennsylvania boys from France.

Gawthrop & Wister Co., Inc., distributors of Clydesdale motor trucks, have moved this week from their former quarters in Market Street to 14-18 South Twenty-first Street, the quarters recently vacated by the Overland-Harper Co. Sales and service station facilities are

(Continued on page 40)

## The Week in St. Louis

ST. LOUIS, May 31—The passenger car business in St. Louis is good. Dealers still are far behind in deliveries, and are clamoring for cars. The waiting list has grown longer, as receipts have been less than orders this month. Dealers feel that a shortage in production is all that can stop them from a tremendously big year, as people have plenty of money.

This has been an exceptionally rainy May, causing a lull in the truck business, especially in the demand from farmers. The sun came out bright again several days ago, and with a few more days of sunshine there will be an improvement in roads and conditions.

The rainy weather was responsible for a postponement of the start of the Motor Truck Expedition from June 2 to June 9. The time of the tour has been shortened to 5 days, and it will end June 14. Interest in the tour is growing here and along the route.

The initiation fee of the St. Louis Automobile Manufacturers' and Dealers' Association has been increased from \$100 to \$200 for active members and from \$40 to \$100 for associate members.

Ladies' Night will be observed at the annual meeting of the Motor Accessory Association, which will be held Wednesday, June 18, at the City Club. Members of the Automobile Manufacturers' and Dealers' Association and the Storage Battery Association, and their ladies also, are invited to attend.

Harry Newman, Inc., has been appointed agent for the Troy trailers. The company also distributes the Highway trailer.

The Sayers Six, which has heretofore not been handled in St. Louis, will be distributed by the Southern Motor Co.

W. J. Fikes has become president and business manager of the St. Louis Selden Co., in which he has purchased the controlling interest. B. M. McNabb will continue as vice-president. The company handles the Selden truck in this territory.

The Times Square Auto Supply Co. has opened a branch store at 1129 Locust Street.

The agency for the Stronghold tire has been taken by the Automotive Electrical Service Co., 2131 Locust Street, which also has been made sub-dealer for Vesta batteries.

Maj. Bernard A. Purcell, after service in the Motor Transport Corps for 2 years, 9 months of which he was in France, has rejoined the sales force of the Dorris Motor Car Co. Another Motor Transport Corps man who has returned is Frank J. Walsh, brother of W. D. Walsh, president, Walsh Motor Car Co.,



Ford dealers, and is again a member of this sales force.

Moving pictures of the Goodyear caravan of a White and a Packard truck were shown to truck distributors and users and tire and accessory men on Wednesday morning at the Empress theater. The films were explained by Frank S. Griesinger, St. Louis Goodyear branch manager.

The Overland Automobile Co. of St. Louis has opened a showroom and a service station in East St. Louis, Ill. Sales are in charge of J. H. Bledsoe, formerly of the St. Louis Overland force, and Thomas Hutchens is service manager.

The Bishop Truck & Tractor Co. has received the first shipment of Stewart trucks, for which it recently was appointed St. Louis distributor.

The MacCarthy-Archer Automobile Co. has been appointed St. Louis distributor for the Rauch & Lang electric, which will be sold from the showroom at 439 North Euclid Avenue, while Detroit electrics, the old line, will be handled from the showrooms at 5141 Delmar Avenue.

The Newell Motor Car Co., Paige and Stearns distributors, have been conducting a school for employees under the supervision of Wayne Hearne, sales and efficiency expert, formerly of the Paige-Detroit Motor Car Co.

Geller, Ward & Hasner have been appointed distributors for the Derf spark plug.

The Bartholomew Battery & Supply Co. have taken the agency for the Dayton electric starter for Ford cars.

#### Hood is Overland Pacific Manager

SAN FRANCISCO, May 28—Announcement of a change in the management of the Willys-Overland Pacific Co. was made at a banquet given here last week. Frank Hood, one of the best known automobile experts on the Pacific Coast and the former manager of the Fresno branch, was appointed to the position of manager here. Hood has been connected with the Willys-Overland company for many years and has had charge of the Fresno branch since its establishment. The banquet was attended by over one hundred dealers from Northern California and one of the great features was the talk by Edwin B. Jackson, vice-president of the Willys-Overland company and in charge of the sales division.

#### Brady-Murray Becomes Hulett

NEW YORK, May 31—Without any change in its personnel, the Brady-Murray Motors Corp., distributor of the Chandler, last week became the Hulett Motor Car Co., Inc., taking its new name from J. B. Hulett, its president.

#### Federal Producing 20 Daily

DETROIT, May 28—The Federal Motor Truck Co. is now running 20 trucks daily and has business on its books greatly in excess of production.

## BROWNE QUILTS WINTON TO MANAGE OAKLAND

### Bowman Drops Oakland July 1 and Browne Becomes Factory Branch Manager

NEW YORK, May 31—Charles M. Browne, president of the Automobile Dealers' Association, Inc., of New York City, and for the past 11 years manager of the New York branch of the Winton Co., has severed his connection with Winton. On June 1 he becomes manager in New York for the Oakland Motor Car Co., which will convert its dealership into a factory branch.

Browne has long been an active figure in New York dealer circles. It was in 1908 that he first came to New York. He became connected with the Winton company in 1905 in that company's Chicago branch. After half a year there he was sent to San Francisco to open a branch on the Pacific Coast and shortly thereafter came to New York. He is succeeded by H. J. C. Miller, who has been his assistant.

Coincident with the change the Oakland business, which has been handled by the Sidney A. Bowman Co. since the early fall of 1913, will be moved to the C. T. Silver Building. As the contract between the Oakland company and the Bowman company does not expire until July 1, Browne's work in the meantime will be only supervisory. The Bowman company has not yet made public its plans for the future.

#### The Week in Philadelphia

(Continued from page 39)

in the immediate rear of the showroom.

The Larson-Oldsmobile Co. announces that it is no longer carrying the heavy type of trucks, now concentrating in the commercial car department on the light delivery car suitable for bakeries, laundries, groceries and the like. This is a new step and is regulated by demand. This company is now settling in its new seven-story building on North Broad Street.

The Hill Rubber Co., tires, Fred R. Hill and A. H. Green representatives, have opened salesrooms and offices at 2214 Chestnut Street.

The International Motor Co., Mack truck distributor, 2302 Chestnut Street, is displaying in its show windows a "wormseye" view of the Mack mechanism, 24 descriptive cards being placed on a wire immediately overhead, explaining the excellence in working of various parts.

The Four-State Auto Supply Co. has taken quarters at 2 South Twenty-first Street, for the sale of automobile accessories.

"Caddie," the mascot Cadillac of the Fifth Regiment of Marines, which also was the first automobile to be landed with the American forces overseas, is on exhibition this week in the show-

room of the Automobile Sales Corporation, 142-144 North Broad Street.

A Wheat tractor constructed by the Hession Tiller and Tractor Co., Buffalo, N. Y., and which started from Columbus Circle, New York, Friday, arrived here after spending the night at Trenton, in a trip to Los Angeles. It pulls a trailer. A stop will be made at Wichita, Kan., for the tractor show there. It makes 15 miles an hour on the roads.

#### Receiver for Maxim Munitions

NEW YORK, June 2—The Maxim Munitions Corp., which was formed in 1915 with \$10,000,000 capital, to take over the inventions of Hudson Maxim and which in June, 1918, announced its intention of making and marketing a farm tractor as well as acting as domestic and export distributor for the trucks manufactured by the Dart Motor Truck Co., Waterloo, has been placed in the hands of a receiver. The courts have appointed H. H. Henry, who for the past two months has been the president of the company and prior to that was vice-president and general manager.

It is understood that the assets and liabilities of the company are about \$1,000,000 each, and it is stated that there appears an excellent possibility of the company being reorganized and continued. Until the creditors and stockholders meet, however, nothing definite can be stated with regard to future plans. A meeting is scheduled for the near future and in the meantime the business will be temporarily discontinued.

#### "Rick" to Referee Tacoma Races

TACOMA, May 28—Some of the nation's best known racers will participate in the July 4 events at the Tacoma speedway. Louis Chevrolet and Dario Resta will drive and Capt. Eddie Rickenbacker will be official referee. The five to appear at the Tacoma speedway are Chevrolet, Resta, Cliff Durant, Eddie Hearne and Ralph Mulford.

As an annual sporting event the races attract lovers of the sport from several states including Oregon, California, Idaho, Montana, Utah, Alaska, British Columbia and the Middle West in general. Thousands crowd the great Speedway each year and the annual races at the Tacoma track are proving the greatest drawing card of any outdoor sporting exhibition held in the West.

#### Olympian Making 10 a Day

PONTIAC, MICH., May 28.—The Olympian Motor Car Co. is swamped with orders. The company is producing 10 cars daily and is preparing to boost this production to 15 cars at once.

#### New Location for Ohio Automobile Trade Association

COLUMBUS, May 29—The Ohio Automobile Trade Association has removed its headquarters to Room 6, 35½ North High Street.



## 30 TRUCKS ENTERED IN 100-TRUCK EXPEDITION

### *Date of Peripatetic Commercial Vehicle Show Start Post- poned One Week*

ST. LOUIS, May 31—More than thirty motor trucks have been entered so far in the 100-truck expedition through Missouri and Illinois under the auspices of the Commercial Car Bureau of the St. Louis Automobile Manufacturers and Dealers' Association, which will leave St. Louis, June 9, having been postponed a week on account of rain. The tour will end here on June 14.

A party of pathfinders departed Friday morning for a 3-day trip over the route, and L. H. Amrine, chairman of the committee in charge of the tour, said to-day that reports stated that the roads were in good shape as far as Quincy, Ill., the end of the second day of the tour. The pathfinders include C. A. Aldrich, Aldrich-Stephens Motor Co., Joseph N. Magna, Federal Truck Co., and Preston W. Duffy, Chevrolet Motor Co. Duffy will be truck master.

The present schedule calls for a start at 6 a. m., Monday, June 9, at West Pine Street and Sarah Boulevard, passing through St. Charles, Wentzville, Flint Hill and Moscow, Mo., halting at the latter place for 90 minutes, and proceeding through Troy, Auburn, Prairieville and Stark to Louisiana, Mo., for the first night control. The expedition starts Tuesday morning at 6 o'clock for Frankfort, New London, Oakwood and halts for two hours at Hannibal, Mo., thence across the Mississippi River on a bridge to Quincy, Ill., for the night control.

The tour continues Wednesday through Camp Point, Rushville and Beardstown, Ill., where the third night control will be established. The expedition will reach Jacksonville, Ill., at noon, and Whitehall in the evening Thursday. Friday the noon control will be at Medora, and night control at Alton, Ill., the party returning to St. Louis Saturday. Touring books show the distance to be 408.6 miles.

An airplane provided by the Service Motor Truck of Wabash, Ind., will precede the expedition, bombing the towns ahead with handbills announcing the coming of the trucks. It is a Curtiss plane, bought by the Service company from the Canadian government.

### **Wright-Martin-International Merger Rumored**

NEW YORK, June 2—Negotiations pointing to an early merger of the International Motor Co. and the Wright-Martin Aircraft Corp. is indicated by negotiations which have been in progress for some time. It is expected that next week Wright-Martin stockholders will approve a plan whereby the New Brunswick factory of Wright-Martin is sold to the International Motor Co. in ex-

change for stock in the latter organization. The factory will be used as increased capacity for the manufacture of trucks and should permit of the International doubling its truck output. The New Brunswick factory has 500,000 sq. ft. area and has been used for the manufacture of Hispano-Suiza engines during the war.

The Wright-Martin Corp. will be reduced in capitalization and continue to exist as an aircraft corporation for the carrying on of necessary aircraft development and manufacturing work.

The International Motor Co. has not announced any definite plans as to whether the New Brunswick Wright-Martin factory will be used solely in the manufacture of truck engines or if Mack trucks will be manufactured in their entirety in it.

### **Wills and Lee Acquire Plant Site**

DETROIT, June 2—C. Harold Wills and John R. Lee, who several months ago severed their connection with the Ford Motor Co., have, together with associates yet to be announced, purchased or optioned a large tract of property on the St. Clair River between St. Clair and Port Huron, and about fifty miles from Detroit. It is the plan to build a large plant upon this property to manufacture the motor car which Wills is now designing. The name of the car and the name of the company which they are organizing have not yet been decided upon.

### **Iowa Organization Booming**

DES MOINES, June 2—The Iowa Motor Trades Bureau, recently organized, is meeting with a ready response from the motor car dealers of the state and has already reached a considerable membership. Secretary A. J. Knapp has just returned from a two-week trip through eastern Iowa in the interest of the Bureau and during his trip a number of county units have been organized. The Marshall county dealers held a meeting on May 16 and organized with G. M. Darling as president; Jack Dagget, secretary, and W. C. McCarten, treasurer. On May 19 Knapp organized the Buchanan county unit, in a dinner-meeting at Independence. A. C. Burkhart of Independence was made president; H. J. Walling of Jessup, vice-president, and H. B. Gill of Independence, secretary-treasurer.

A meeting of the Dubuque county dealers will be held at Dubuque, June 5, for the purpose of perfecting the county organization, and the Clinton county dealers will meet June 4 to organize.

### **Willard Men to Meet**

CEDAR RAPIDS, June 2—Willard Battery Station men of Iowa will hold a convention at the Chamber of Commerce in Cedar Rapids June 12. Among the speakers will be A. J. Knapp, secretary of the Iowa Motor Trades Bureau, who will speak on "Organization."

## BRITISH TRACTOR TEST TO BE A REAL TRY-OUT

### *In Addition to Being a Demon- stration, Machines Are to Be Thoroughly Tested*

LONDON, May 15—British tractor trials will be held at Lincoln, England, during September, 1919, by the Society of Motor Manufacturers and Traders, Ltd., which is the national automobile organization of Great Britain.

The trials are typically British in their searching character. They are not to be merely a demonstration but will be a thorough test of the machines as well. For example, on the first day there will be plowing on heavy soil from 10 a. m. to 5 p. m., with an hour interval at lunch. On the second day there will be a similar program of plowing on light soil. On the third day there will be 2 hours plowing in the morning and 3 hours of cultivating land previously plowed in the afternoon.

Previous to the plowing there will be a draw-bar dynamometer test for the purpose of guiding the entrants as to how many plows they can handle and also to ascertain the pulling capacity of the tractor. The tractors will be fitted with a recording dynamometer and readings taken at a speed of 2.5 m.p.h.

The total gear ratio on each gear, the driving wheel diameter in the case of wheeled vehicles, or the pitch diameter and pitch of the track sprockets in case of a track or creeper type machine must be declared and marked on the sign carried on the tractor.

During the plowing work an observer will accompany each machine and completely report on everything connected with its work.

At the end of each day the tractors will be parked but no repairs, renewals, or adjustments made on them during the night, except by special arrangement with the judges. Any necessary adjustments must be made during the period of 1 hour immediately previous to the start of work in the morning.

Only 10 minutes will be allowed for warming up engines before the plowing starts. In case of steam tractors 30 minutes is allowed.

One grade each of gasoline, benzol, and kerosene will be furnished. No cooling medium other than water is permitted.

Entries may be made by the British importer or the American manufacturer. Many entries have already been received and over fifty different makes are expected.

### **New Plant for Hill Pump**

CHICAGO, May 28—The Hill Pump Valve Co. has purchased a site of 205,402 sq. ft. here and will commence at once the erection of a new plant. The first building will be a one-story saw-tooth roof structure.



## EXCISE TAX SCHEDULE CONSIDERABLY REVISED

### Tax on Truck Chassis Reduced to 3%—Tire Adjustments Now Covered

WASHINGTON, June 2—As a result of numerous protests from the National Automobile Chamber of Commerce and the National Automobile Dealers' Association and other bodies, the Treasury Department has issued new rulings relating to some of the excise taxes on cars, trucks and parts.

The tax on tires, accessories and parts does not apply when sold to the manufacturer or producer of passenger cars, trucks or motorcycles for the sole purpose of being used in their manufacture and for sale on them. In all such sales, however, it will be necessary for the buyer to furnish a certificate showing that the parts or tires will be used as prescribed.

The ruling on chassis whereby all chassis were classed as passenger cars and taxable at 5 per cent has been changed and any chassis with a superstructure that will allow its use as a truck without any substantial additions, is regarded as a truck and taxable at 3 per cent. All other chassis, however, remain taxable at 5 per cent.

Under the original regulations a manufacturer who is also engaged in retail business is allowed to base his tax on the average monthly wholesale price and under the new regulations where it is impracticable to follow this plan the taxpayer can base his tax on the ordinary regular wholesale price for which like articles were sold in the month previous.

When tires are returned for replacement due to the fact that they have not traveled the guaranteed number of miles, a tax on the replacement is figured on the actual price of the transaction.

Following is the complete amendment:

#### EXCHANGES PURSUANT TO GUARANTY.

Where any article taxable under Section 900 is returned to the manufacturer thereof, for adjustment, replacement, or exchange, under a guaranty as to quality or service, and a new article given pursuant to a guaranty, free or at a reduced price, the tax shall be computed on the actual price, if any, to be paid to the manufacturer for the new article.

Article 14 of Regulations No. 47, entitled "Tires, inner tubes, parts, and accessories sold to manufacturer" is hereby modified to read as follows:

"Subdivision (3) Section 900 of the Act exempts from tax sales of tires, inner tubes, parts, or accessories to a manufacturer or producer of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts, or accessories. To come within the exemption the sale must be to such a manufacturer for use by him in the manufacture or production of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts, or accessories or for sale by him on automobile trucks, automobile wagons, other automobiles, or motorcycles or in connection therewith or with the sale thereof or for free replacement under contract or guaranty. If sold to such a manufacturer for any other purpose, such as resale to a dealer or for the rebuilding of used cars, the sale is taxable. In order for the sale to come within the exemption of the statute, the manufacturer must at the time the goods are shipped or sold (whichever is prior) have in his pos-

session an order or contract of sale, with certificate of the purchaser in writing printed thereon or permanently attached thereto, showing that the tires, inner tubes, parts, or accessories so purchased are to be used in the manufacture of new automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts, or accessories or for sale on automobile trucks, automobile wagons, other automobiles, or motorcycles or in connection therewith or with the sale thereof or for free replacement under contract or guaranty. Following is a form of the certificate or statement which will be accepted:

#### FORM OF CERTIFICATE.

The undersigned hereby certifies that the tires, inner tubes, parts, or accessories purchased hereunder are purchased with the intention of using them in the manufacture or production of automobile trucks, automobile wagons, other automobiles, motorcycles, tires, inner tubes, parts, or accessories, or for the sale on automobile trucks, automobile wagons, other automobiles, or motorcycles, or in connection therewith or with the sale thereof, or for free replacement under contract or guaranty. In case any of the tires, inner tubes, parts, or accessories sold hereunder are diverted from this use, the purchaser will account for such tires, inner tubes, parts, or accessories to....., the manufacturer thereof, at least once during each calendar year and will pay the tax thereon to him at the time such accounting is made.

Signed.....  
If it is impracticable to furnish a certificate for each order a certificate covering all orders between given dates (such period not to exceed a month) will be acceptable. If in any case such an order and certificate can not be produced on demand of any authorized agent of the department the tax in respect to the sale will be considered in default.

Substitute in place of the next to last sentence of Article 15 of Regulations 47, which reads as follows:

"A chassis is a part of an automobile and taxable at the rate of 5 per cent when sold separately regardless of whether it is a chassis for an automobile truck or wagon or for any other kind of automobile."

"A chassis provided with a superstructure of such design that it is without substantial additions adaptable for hauling heavy loads is an automobile truck or automobile wagon and taxable at the rate of 3 per cent. A chassis not so equipped is an 'other automobile' taxable at the rate of five per cent. Unless the manufacturer has actual knowledge that the chassis is to be used as an automobile truck, or automobile wagon, or has in his possession at the time the chassis is shipped or sold (whichever is prior) an order or contract of sale with a certificate of the purchaser in writing, printed thereon, or permanently attached thereto showing that the chassis specified in the order is to be so used, the tax shall be five per cent upon the manufacturer's selling price."

Article 34 of Regulations No. 47, entitled "Manufacturer also Retailer" is supplemented by adding a new paragraph to read as follows:

"In cases where it is impracticable to compute the tax in respect to articles sold at retail on the average wholesale price for which like articles were sold during the previous calendar month, the taxpayer has the option of basing the tax upon the ordinary or regular wholesale price for which like articles were sold during the previous calendar month."

#### All-American to Expand

CHICAGO, June 3—The All-American Truck Co., now operating in the Ogren plant, Chicago, has purchased 34 acres of land in the city for approximately \$100,000 and will immediately begin construction of a factory which with other plants to be built by the company will ultimately cost \$1,500,000. A bond issue loan of \$150,000 has been arranged. Production at this time is ten trucks a day and the present factory is capable of about fifteen a day. When the first unit of the new plant is completed it will handle thirty a day and when all the contemplated improvements have been made on the new property a production of one hundred daily is expected.

## PRODUCTION DECREASES SLIGHTLY DURING MAY

### Ohio and Michigan Factories Hard Hit by Strikes Among Parts Makers

Daily production figures for the two states during the month of May follow:

Car	April	May
Buick .....	500	500
Briscoe .....	75	75
Barley .....	10	10
Cadillac .....	100	80
Chalmers .....	80	80
Chandler .....	60	70
Chevrolet .....	700	726
Columbia .....	18	20
Dodge .....	500	500
Dort .....	100	100
Ford .....	3,000	3,000
Harroun .....	15	15
Hudson .....	100	100
Hupp .....	75	60
King .....	10	10
Liberty .....	30	30
Maxwell .....	250	250
Olympian .....	10	12
Oldsmobile .....	140	150
Overland .....	600	200
Packard .....	25	25
Paige .....	70	75
Paterson .....	15	15
Jordan .....	12	15
Reo .....	125	125
Saxon .....	50	35
Scripps-Booth .....	45	50
Studebaker .....	200	150
Winton .....	10	10
Essex .....	100	100
Grant .....	50	50
	7,084	6,688

DETROIT, June 2—Automobile production in Michigan and Ohio during May was hard hit by labor troubles, statistics revealing a falling off in daily production of many factories. During the month production averaged 6688 cars daily as compared with 7084 produced daily during April. Strikes in the plants of parts makers were largely instrumental for the sub-normal production, although in the cases of Willys-Overland and Studebaker No. 3 factory, Detroit, the strikers effectively tied up manufacturing work.

Saxon, Hup and others were hit by the Wilson Body Co. strike, their supply of bodies being curtailed. The walkout at Timken-Detroit Axle Co. put the Cadillac and one or two other companies in a bad way while the Salisbury Wheel & Axle Co., Inc., strike at Jamestown, N. Y., if it develops seriously, is threatening Paige production. The Willys-Overland Co., which was running 600 cars daily at time of the strike in that plant, has not produced a car in three weeks. Studebaker production is affected by a walk-out, but to just what extent is not known at this time.

All of the automobile makers are over-sold, some of the companies, the Jordan Co. of Cleveland, for instance, having sold its entire production for the next eight months. If production could be doubled there would be a ready market for every car made.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

**Ralph Snyder**, Quincy, Ill., has been appointed retail sales manager for the Overland Automobile Co. of that city and will have jurisdiction over fifty-two counties of Illinois and Missouri.

**J. P. Mahoney**, for 3 years general purchasing agent of the Buda Co., will assume the position of sales manager left vacant by Lon R. Smith, who went to Indianapolis as general sales and advertising manager of the Midwest Engine Co.

**William H. Yule**, manager of mechanical sales for the B. F. Goodrich Rubber Co., has resigned, and will leave the rubber industry to manage his newly purchased orange and fruit ranch near Santa Barbara, Cal.

**Clifford A. Williams** has become associated with the Western Motors Co., Los Angeles, as vice president in charge of the Kissel business.

**Hal G. Trump**, for the last 4 years manager of the Chicago office of the Green-Fulton-Cunningham Co., has joined the staff of the Campbell-Ewald Co., Detroit, Chicago and New York. Trump will make his headquarters at the Detroit office.

**J. C. Witwer**, who was connected with the Kelly-Springfield Tire Co., Akron, as assistant superintendent for 8 years, and during the past year in the experimental department of the Goodyear Tire & Rubber Co., has joined the International India Rubber Corp., South Bend, as assistant superintendent in charge of production.

**Bernard M. Robinson** has recently been appointed resident counsel and head of the legal department of the Firestone Tire & Rubber Co., Akron, taking over the duties of Mr. Hamill, who has been appointed secretary to President Harvey S. Firestone.

**C. H. Bassett**, Detroit, has been appointed a southern district sales representative by the Fulton Motor Truck Co., Farmingdale, L. I. In the past he has been connected with the Studebaker and Elgin interests and was a dealer and distributor at Jacksonville, Fla.

**George W. Brooks** has been appointed representative of the Hudson Motor Specialties Co. in Texas, New Mexico, Oklahoma, Kansas and Arkansas.

**Major Howard Blood**, connected with the airplane experimental station at Dayton during the war, has been appointed general manager of the plants of the General Motors Co. at Walkerville, Ont. Two plants are now being built for manufacture of engines and axles.

**M. B. Hoagland** has been appointed director of sales of the Signal Motor Truck Co., Detroit. He was with the American Steel & Wire Co. for 17 years.

**J. Gordon** has been appointed middle western sales representative of L. V. Flecher & Co., New York City.

**W. D. Hopson**, who for 3 years represented the Studebaker Corp. as service supervisor in the Orient, is now service representative of the General Motors Export Co. in the Far East. He expects to sail for Shanghai on June 15.

**A. E. Wingert**, district sales manager for the Chalmers Co. for 3 years, has been ap-

pointed wholesale manager of the Fulton Truck Co. of Michigan.

**Robert Marcus**, formerly with the American Bureau of Engineering and later with the Willard Storage Battery Co., has been put in charge of the Battery Service Station Equipment Department of the H. B. Shontz Co., New York, which have just been appointed Metropolitan distributor of all Ambu products, manufactured by the American Bureau of Engineering.

**Frank R. Boyd** has resigned as assistant treasurer of the Oakland Motor Car Co., Pontiac, and will devote his time to personal affairs.

**M. V. Smith** has been made general superintendent of the Supreme Motors Corp., Warren, O. He was production manager of the Essex engine at the Hudson Motor Car Co. plant, Detroit.

**A. H. Savage** has been appointed sales representative of the Roller-Smith Co., New York, for the states of Minnesota, North Dakota and part of Wisconsin and South Dakota, with headquarters in the Pioneer Building, St. Paul.

**Fred T. Ferrell** has resigned as sales manager of the Harrisburg Automobile Co., Harrisburg, Pa., and has become sales representative of the Hession Tiller & Tractor Corp., Buffalo, N. Y., maker of the Wheat tractor. He will at first be chiefly occupied with the coast-to-coast trip undertaken by the Wheat tractor.

## Standard-Detroit Tractor to Dissolve

**DETROIT**, May 28—The Standard-Detroit Tractor Co. has filed a petition for dissolution in the circuit court. The petition was signed by M. L. Pulcher, head of the Federal Motor Truck Co., and Edward P. Hammond, both stockholders in the company, and other well-known Detroiters. The petition states that the company has 60 cents in the bank and that its liabilities are far greater than its assets. The business has been carried on at a loss for some time and there is no prospect that it will improve. The total assets amount to \$1,811 and the liabilities \$59,490. The company was incorporated some time ago for \$100,000 for the purpose of manufacturing a tractor attachment to Ford cars.

## Coast Representative for Derf

**NEW YORK**, May 28—The Capital Farm Implement Co., Sacramento, has been appointed Pacific Coast representative of the Derf Mfg. Co.

## Kalamazoo Motors Takes Lane Truck

**KALAMAZOO**, May 28—The Lane Motor Truck Co. has been taken over by a new company styled Kalamazoo Motors Corp., which will continue the Lane line but under the name of Kalamazoo. The new company has a fully paid up capital of \$250,000, officers being: Presi-

dent, H. A. Crawford; vice-president, C. J. Johnson; treasurer, William B. Milham; secretary, R. M. Gregory; directors, A. L. Pratt, John McKinnon, H. P. Kauffer, V. T. Barket, Joseph Brown, Frank Milham.

## Ohio Dealers Killed a Bad One

**COLUMBUS**, May 28—The Ohio Automobile Trade Association has succeeded in defeating a pernicious bill which, if allowed to pass in the Ohio General Assembly would have put out of business about 1000 garages, repairshops and filling stations in the state of Ohio. The bill sought to prohibit the operation of a garage, repairshop or filling station within 200 ft. of a church, public or private school, hotel with 100 or more rooms and a number of other classes of institutions.

## Hollier Getting Into Production

**CHELSEA**, MICH., May 28—The Lewis Spring & Axle Co. is now getting into fair production on the Hollier six. Manufacture of this car, which was discontinued during the war, has now been permanently resumed. The company can sell all the cars it makes, but has not yet prepared its production schedule for the coming year. About 400 men are on the payroll and this number will be increased as production expands.

## Champion Holds Annual Gathering

**TOLEDO**, May 31—Three hundred and sixty-five purchasing agents and engineers representing the various automotive manufacturers in Michigan, Ohio and Indiana gathered at the plant of the Champion Spark Plug Co. here last Saturday. The gathering is an annual one. In the afternoon they inspected the Champion plant and in the evening were entertained at a banquet at the Toledo Club.

## NEW YORK STOCK EXCHANGE CLOSING QUOTATIONS, MAY 29, 1919

	Bid	Asked
Fisher Body, com.....	79	80
Fisher Body, pfd.....	100	101½
Goodrich, B. F., Co., com.....	78	78½
Goodrich, B. F., Co., pfd.....	106	107
Kelly-Springfield, com.....	126	127½
Kelly-Springfield, pfd.....	96	97
Kelsey Wheel, com.....	50	56
Kelsey Wheel, pfd.....	99½	102
Lee Rubber & Tire.....	33	34
Stewart Warner.....	93	99½
Stromberg.....	54	54½
U. S. Rubber, com.....	114½	114½
U. S. Rubber, pfd.....	114	115
Chandler.....	189	190
General Motors, com.....	209	209½
General Motors, pfd.....	90½	91
General Motors, deb.....	90	90½
Maxwell, com.....	44½	45
Maxwell, 1st pfd.....	77½	77½
Maxwell, 2d pfd.....	36½	36½
Pierce-Arrow, com.....	60½	61
Pierce-Arrow, pfd.....	107	107½
Saxon.....	10½	10½
Studebaker, com.....	107½	108
Studebaker, pfd.....	28½	29½
Stutz.....	68½	69
White.....	60½	60½
Willys-Overland, com.....	39½	39½
Willys-Overland, pfd.....	97	98



## COMING EVENTS

### Races, Contests and Tours

*Sheepshead Bay, N. Y.	June 14	.....	Speedway.
Atlantic City, N. J.	July 4	.....	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	.....	Speedway.
Cincinnati, O.	July 5	.....	Speedway.
Uniontown, Pa.	July 19	.....	Mid-Summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	.....	Speedway.
*Middletown, N. Y.	Aug. 15	.....	Dirt track event.
Elgin, Ill.	Aug. 22-23	.....	Road race.
Sheepshead Bay, N. Y.	Aug. 23	.....	Speedway.
Uniontown, Pa.	Sept. 1	.....	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	.....	Speedway.
*Allentown, Pa.	Sept. 27	.....	Dirt track event.
Cincinnati, O.	Oct. 1	.....	Speedway.
*Trenton, N. J.	Oct. 4	.....	Dirt track event.
*Danbury, Conn.	Oct. 11	.....	Dirt track event.
*Tentative dates.			

### Meetings and Outings

Chicago, Ill.	June 2-3	.....	Twelfth Annual Convention, Hotel Sherman, National Gas Engine Assn.
Hot Springs, Va.	June 2-6	.....	Convention, Automotive Equipment Assns., Homestead Hotel.
Washington, D. C.	June 3-6	.....	Pan-American Commercial Conference, Pan-American Union Bldg.
Philadelphia, Pa.	June 21	.....	Annual Outing, Kugler's Mohican Club, Motor Truck Assn. of Phila., with the Phila. Auto Trade Assn., Automobile Accessories Business Assn. and the Camden Auto Trade Assn.
Ottawa Beach, Mich.	June 23-27	.....	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-25	.....	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

### Foreign Shows

Venezuela, S. A.	May 15-June 1	.....	National Exhibit of Venezuela.
Paris, France	Oct. 15	.....	Grand Palais—International Automobile Manufacturer's Congress.
London, England	November	.....	Olympia—International Automobile Manufacturers' Congress.

### Tractor Demonstrations

Denver, Col.	June 9-12	.....	Sectional Tractor Demonstrations, Denver Tractor Club.
Wichita, Kan.	July 14	.....	Automotive Committee of National Implement Assn.
Columbus, O.	July 28-29	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Piqua, O.	Aug. 1-2	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Fostoria, O.	Aug. 6-7	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Akron, O.	Aug. 12-13	.....	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Aberdeen, S. D.	August 18-22	.....	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	.....	Inter-Provincial Plowing Match and Tractor Demonstration.

### Watch for Him

BOSTON, May 26—Dr. A. Sydney Matthews and A. Clarence Dawson, president and secretary of the National Touring Club of America, Inc., and the League of American Patriots, Inc., are being sought by the Federal authorities of Boston on a charge of swindling. Officers of the law state that they believe the two men secured some \$25,000 before they left town. Just two hours before the officers went to the headquarters of the two they had packed up their baggage and left for parts unknown. Record shows that 9553 membership certificates were sold.

It has leaked out that the men had visited the post office where they were able to get some idea of who the post office inspectors were. And then they were able to keep tabs on the Federal officers, so that they were just a step ahead of the officials all the time.

The charge against the men is conspiracy to use the mails in a scheme to defraud. Dawson was exposed recently after having palmed himself off as a

member of the famous Lafayette Escadrille. He and Matthews came to Boston, as far as the authorities have been able to ascertain, some time last March along about show time and opened offices in the Walker Building.

They employed a staff of stenographers who worked day and night preparing letters to send out soliciting membership in the touring club. One of them went to a newspaper office and asked for advertising rates, stating that they were going to build up an organization like the A. L. A. of Boston.

Then the letters were sent out with dues for individuals placed at \$2 a year; for charter members, \$5; for life members, \$10. Garages and hotels were allowed to join for \$6 and \$8, and elaborate signs were prepared to be hung out showing members where to call to get the benefit of being an N. T. C. member. A contract was placed for the garage signs to cost \$4.69 each, and for which hotels and garages would pay \$8. Signs for the cars were to cost 43 cents and owners could have them for only (?) \$2.50.

The contracts were let to the Beach Enameling Co. of Coshocton, O. There were to be 5000 of the hotel, garage signs 18 x 24, and 5000 of the car signs 6 x 5. Individual members were given a button.

The two men kept within the limits of the law until they put an advertisement in the newspapers to secure "a lady to earn \$40 who would have to put up \$2,500 as a guarantee of integrity, etc." Matthews stated that he would put up \$2,500 worth of gilt-edged securities in escrow in a bank against the money put up by the woman. Then C. H. Loomis of 49 Oakland Street, Medford, Mass., was asked to join the club, but he thought it was suspicious and he conferred with the authorities. It was on this basis that a warrant was sworn out by the post office authorities.

### Bad Roads Retarding Truck Sales

DETROIT, May 28—Bad roads in the vicinity of Detroit are retarding truck sales outside of the city limits. Harry G. Mook, secretary and business manager of the National Automobile Dealers' Association, who was in town during the motor transport day held here yesterday, reports that large sales of trucks in the rural districts will be made just as soon as the improved road conditions result from the good road campaign now in progress in this state.

Mr. Mook states that a great amount of pioneer work among the prospects in the rural districts at the present time will net great results to the wideawake dealers who go after this business, because as soon as the roads are improved and it is possible to use the trucks, a flood of orders will be released. Naturally, a large share of these orders will go to the dealers who have successfully pioneered in the rural districts which, at present, have unimproved roads, but which will soon be in better condition in this respect.

### Williams County Organizes

MONTPELIER, OHIO, May 28—The organization of the Williams County Automobile Trade Association was perfected at a meeting held at this place May 12. Officers elected were: W. T. Gardner of Byran, president; Raymond Howard of Edgerton, vice-president, and Guy Knepper, Montpelier, secretary-treasurer. The organization starts with a substantial and enthusiastic membership and has been affiliated with the Ohio Automobile Trade Association. The next meeting will be held at West Unity, June 9, when the Ohio organization will provide a speaker.

### Buick Producing 450-500 Daily

FLINT, MICH., May 28—The Buick Motor Co. is not back into normal production as yet. The plant is turning out between 450 and 500 cars daily. While some difficulty has been experienced in the past in getting certain parts, this situation is rapidly clearing up, all material now coming through in fair order.



Farm Tractors  
Motor World Guide  
Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity
Allis-Chalmers	6-12	2,200	2,200	W	2	LeRoi	4	4 1/2 x 4 1/2	G or K	1	Farquhar	15-25	6,300	6,300	W	3	Buda	4	4 1/2 x 4 1/2	G or K or D	3-4
Allis-Chalmers	10-18	4,800	4,800	W	3	Ow	4	4 1/2 x 6	G or K	2-3	Farquhar	18-35	16,000	16,000	W	4	Ow	4	4 1/2 x 6	G or K or D	4-5
Allis-Chalmers	18-30	8,000	8,000	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farquhar	25-50	19,000	19,000	W	4	Ow	4	4 1/2 x 6	G or K or D	6-7
Alvord	14-28	4,800	4,800	W	4	Ow	4	4 1/2 x 6	G or K	3-4	Fitch	20-35	6,800	\$2,500	W	4	Climax	4	4 1/2 x 6	G or K or D	4-5
American	15-30	4,975	\$1,595	W	4	Beaver	4	4 1/2 x 6	G or K	2-3	Flour City	14-25	6,800	6,800	W	4	Ow	4	4 1/2 x 6	G or K	4-5
Appleton	16-26	4,900	4,900	W	4	Buda	4	4 1/2 x 6	G or K	2-3	Flour City	20-35	10,000	10,000	W	4	Ow	4	4 1/2 x 6	G or K	6-8
Atlas	12-20	4,900	1,750	W	3	Waukesha	4	4 1/2 x 6	G or K	2-3	Flour City	30-50	14,000	14,000	W	4	Ow	4	4 1/2 x 6	G or K	6-8
Aultman-Taylor	18-30	7,500	7,500	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3	Flour City	40-70	21,000	21,000	W	4	Ow	4	4 1/2 x 6	G or K	8-10
Aultman-Taylor	22-45	12,500	12,500	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3	Flour City	60-100	27,000	27,000	W	4	Ow	4	4 1/2 x 6	G or K	8-10
Aultman-Taylor	30-60	23,000	23,000	W	4	Waukesha	4	4 1/2 x 6	G or K	2-3	Flour City	120-200	70,000	70,000	W	4	Ow	4	4 1/2 x 6	G or K	8-10
Austin	12-20	3,500	750	W & C	2	LeRoi	4	4 1/2 x 4 1/2	G or K or D	2-3	Franks	8-16	3,500	3,500	W	4	Gray	4	4 1/2 x 4 1/2	G or K	2
Austin	12-20	3,500	750	W & C	2	LeRoi	4	4 1/2 x 4 1/2	G or K or D	2-3	Fricks	12-25	5,800	5,800	W	4	Erd	4	4 1/2 x 4 1/2	G or K	2
Austin	20-40	4,500	4,500	W & C	4	Assoc. Mfrs.	4	4 1/2 x 6	G or K or D	2-3	Fulton	12-25	2,500	1,275	W	3	Waukesha	4	4 1/2 x 6	G or K	2
Auto Tiller	8-16	850	365	W	2	Ow	4	4 1/2 x 6	G or K or D	2-3	Giant	30-60	24,000	24,000	W	4	Ow	4	4 1/2 x 6	G or K	10
Avery B.	5-10	2,150	550	W	2	Ow	4	4 1/2 x 6	G or K or D	2-3	Giant	50-75	40,000	40,000	W	4	Ow	4	4 1/2 x 6	G or K	12
Avery Cultiv.	8-16	3,050	550	W	2	Ow	4	4 1/2 x 6	G or K or D	2-3	Gile	20-35	6,800	6,800	W	4	Ow	4	4 1/2 x 6	G or K	3
Avery	12-25	7,500	7,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Go F	12-22	4,200	1,375	W	4	Waukesha	4	4 1/2 x 6	G or K	3
Avery	14-28	9,250	9,250	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Go G	14-28	4,500	1,458	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4
Avery	25-50	22,000	22,000	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Gray	18-36	6,800	2,250	W	4	Waukesha	4	4 1/2 x 6	G or K	4
Bates Steel Oil	15-25	4,000	4,000	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	12-20	2,900	2,900	W	4	Field	4	4 1/2 x 6	G or K	2
Bates Steel Mule	15-20	4,500	4,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	7,400	1,395	W	4	Climax	4	4 1/2 x 6	G or K	3
Bean Track Pul	11-14	3,100	855	W	4	LeRoi	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Beaumont	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4	Ow	4	4 1/2 x 6	G or K	3
Bell	12-20	3,500	3,500	W	4	Ow	4	4 1/2 x 6	G or K or D	2-3	Hackney	15-30	1,588	1,395	W	4					



# Trucks

Name and Model	Tons Capacity	Price	Cylinder Stroke	TIRES		Final Drive	Name and Model	Tons Capacity	Price	Cylinder Stroke	TIRES		Final Drive	Name and Model	Tons Capacity	Price	Cylinder Stroke	TIRES		Final Drive
				F.	R.						F.	R.						F.	R.	
A & B	3	4250	4-11x5	36x7	36x5	W	Garford	708	\$3300	4-11x5	36x7	36x5	W	Garford	708	\$3300	4-11x5	36x7	36x5	W
A & B	5	5250	4-11x5	36x7	36x5	W	Garford	77C	4300	4-11x5	36x7	36x5	W	Garford	77C	4300	4-11x5	36x7	36x5	W
Accum.	1	1485	4-11x5	36x7	36x5	W	Garford	68	5000	4-11x5	36x7	36x5	W	Garford	68	5000	4-11x5	36x7	36x5	W
Accum.	2	2250	4-11x5	36x7	36x5	W	Garford	69	5300	4-11x5	36x7	36x5	W	Garford	69	5300	4-11x5	36x7	36x5	W
Accum.	3	3150	4-11x5	36x7	36x5	W	Garford	70	4400	4-11x5	36x7	36x5	W	Garford	70	4400	4-11x5	36x7	36x5	W
Accum.	4	4150	4-11x5	36x7	36x5	W	Garford	71	4400	4-11x5	36x7	36x5	W	Garford	71	4400	4-11x5	36x7	36x5	W
Accum.	5	5150	4-11x5	36x7	36x5	W	Garford	72	5100	4-11x5	36x7	36x5	W	Garford	72	5100	4-11x5	36x7	36x5	W
Accum.	10	4750	4-11x5	36x7	36x5	W	Garford	73	4300	4-11x5	36x7	36x5	W	Garford	73	4300	4-11x5	36x7	36x5	W
Accum.	2	2750	4-11x5	36x7	36x5	W	Garford	74	4300	4-11x5	36x7	36x5	W	Garford	74	4300	4-11x5	36x7	36x5	W
Accum.	3	3750	4-11x5	36x7	36x5	W	Garford	75	4300	4-11x5	36x7	36x5	W	Garford	75	4300	4-11x5	36x7	36x5	W
Accum.	4	4750	4-11x5	36x7	36x5	W	Garford	76	4300	4-11x5	36x7	36x5	W	Garford	76	4300	4-11x5	36x7	36x5	W
Accum.	5	5750	4-11x5	36x7	36x5	W	Garford	77	4300	4-11x5	36x7	36x5	W	Garford	77	4300	4-11x5	36x7	36x5	W
Accum.	10	4750	4-11x5	36x7	36x5	W	Garford	78	4300	4-11x5	36x7	36x5	W	Garford	78	4300	4-11x5	36x7	36x5	W
Accum.	2	2750	4-11x5	36x7	36x5	W	Garford	79	4300	4-11x5	36x7	36x5	W	Garford	79	4300	4-11x5	36x7	36x5	W
Accum.	3	3750	4-11x5	36x7	36x5	W	Garford	80	4300	4-11x5	36x7	36x5	W	Garford	80	4300	4-11x5	36x7	36x5	W
Accum.	4	4750	4-11x5	36x7	36x5	W	Garford	81	4300	4-11x5	36x7	36x5	W	Garford	81	4300	4-11x5	36x7	36x5	W
Accum.	5	5750	4-11x5	36x7	36x5	W	Garford	82	4300	4-11x5	36x7	36x5	W	Garford	82	4300	4-11x5	36x7	36x5	W
Accum.	10	4750	4-11x5	36x7	36x5	W	Garford	83	4300	4-11x5	36x7	36x5	W	Garford	83	4300	4-11x5	36x7	36x5	W
Accum.	2	2750	4-11x5	36x7	36x5	W	Garford	84	4300	4-11x5	36x7	36x5	W	Garford	84	4300	4-11x5	36x7	36x5	W







# Passenger Cars

# MOTOR WORLD GUIDE

# Passenger Cars

Starting										Starting										Starting										Starting									
Model		Engine		Ignition		Lightning		WB		Tires		Rims		Pass.		Pass.		Sedan		Model		Engine		Ignition		Lightning		WB		Tires		Rims		Pass.		Pass.		Sedan	
Model		Engine		Ignition		Lightning		WB		Tires		Rims		Pass.		Pass.		Sedan		Model		Engine		Ignition		Lightning		WB		Tires		Rims		Pass.		Pass.		Sedan	
ALLEN Series 41		4-31x5 Conn		A-Lite		112 32x3 SS		112 32x3 SS		112 32x3 SS		112 32x3 SS		112 32x3 SS		112 32x3 SS		112 32x3 SS		OAKLAND 34-B		6-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
AMERICAN B		6-31x5 A-Kent		West		122 32x4 SS		122 32x4 SS		122 32x4 SS		122 32x4 SS		122 32x4 SS		122 32x4 SS		122 32x4 SS		OLDSMOBILE 45-A		8-21x44 Deleo		Deleo		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS			
AMERICAN BEAUTY		6-31x5 Q&D		Q&D		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
ANDERSON		6-31x5 Q&D		Q&D		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		121 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
400-A-E		6-31x4 Conn		Weths		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
ANNIVERSARY		8-31x5 Remy		Bijur		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
APPERTON		8-31x5 Remy		Bijur		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
8-20		8-31x5 Remy		Bijur		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		130 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
AUBURN		6-31x4 Remy		Remy		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
6-31x4-H-K		6-31x4 Remy		Remy		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		120 32x4 SS		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
BELL		4-31x4 A-Kent		Dyneto		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			
BIDDLE		4-31x4 A-Kent		Dyneto		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		114 31x4 QD		OLDSMOBILE 45-A		8-21x44 Remy		Remy		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS		112 32x4 SS			

ABBREVIATIONS:—"A Kong" Alwater Kong; "A-Lite" Auto-Lite; "Conn" Connecticut; "G & D" Gray & Davis; "Kluman" Kluman; "L-N" Leeco-Neville; "N.E." North-East; "W. Lord," Ward Leonard; "88" Straicht Bide; "QD," Quick Detachable; "Q," Clincher; "QDR"—Quick Detachable Revolver; "NUTS"—Nuts means that the rear tires are 30x34 and the front are smaller. 13154 C tire on Berlin.



# MOTOR WORLD

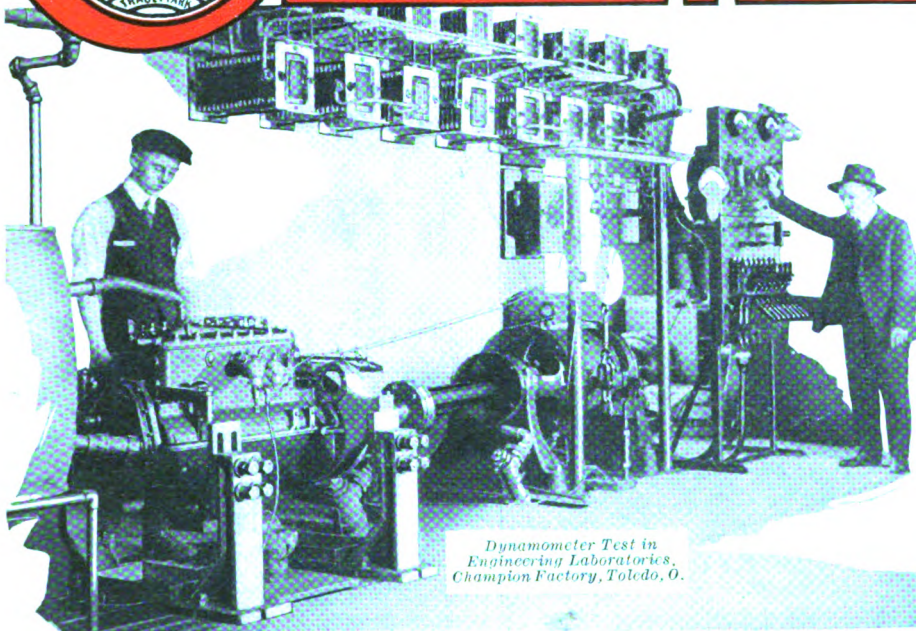
DEALERS, JOBBERS AND GARAGEMEN,

Volume LIX  
Number 11

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, JUNE 11, 1919

Fifteen cents a copy  
Three dollars a year

## **Champion** Dependable Spark Plugs



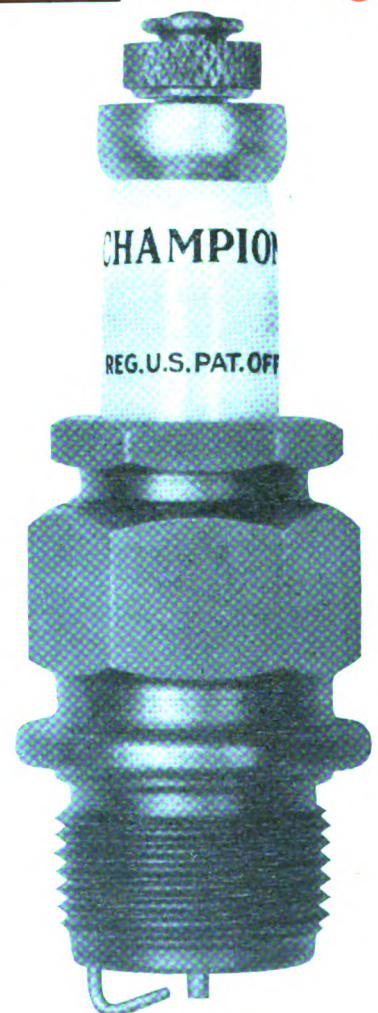
*Dynamometer Test in  
Engineering Laboratories,  
Champion Factory, Toledo, O.*

### Dynamometer Test Guarantees *Dependability*

IN ADDITION to all the laboratory tests on the various materials, this actual engine test is a daily check of each day's production. Various types of engines equipped with Champion Spark Plugs are being run at all times under the most severe conditions.

The established dependability of Champion Spark Plugs, with our No. 3450 Insulator and patented gasket construction, make it more profitable for dealers to handle our complete line. Go over your stock and order today.

**Champion Spark Plug Company, Toledo, Ohio**  
*Champion Spark Plug Company of Canada, Limited, Windsor, Ontario*

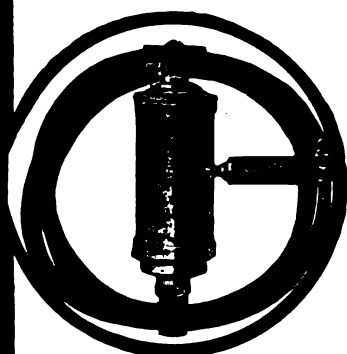


**Champion 7/8-18  
A 44, Price \$1.00**





## UTILITY PEDALS FOR FORDS



**UTILITY PUMPS**  
For All Cars - \$12.00  
For Fords - - 7.50



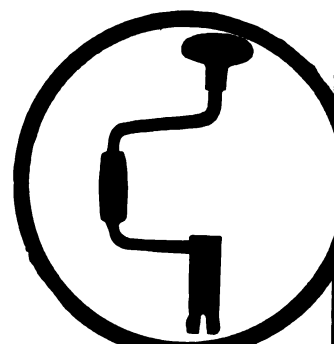
**Price**  
**\$1.25** **For**  
**Fords**

The key to safety in driving any Ford car, is a firm, positive grip on the pedals. UTILITY Pedals—rubber shod—are absolutely slip-proof. Besides, they are wide enough to hold the driver's whole foot—with a flange for extra protection against slipping, at the side. Owners call them "*The Absolutely Necessary Accessory for Fords.*" Dealers find them *selling faster every day*, and increasing in popularity and profits, more and more.

*DEALERS: Order from your Jobber.*  
*JOBBERs: Get in touch with us.*

### Hill Pump Valve Co.

Mfrs. of UTILITY Products  
Archer Avenue and Canal St., Chicago  
Sales Department:  
THE ZINKE CO., 1323 S. Michigan Ave.,  
Chicago



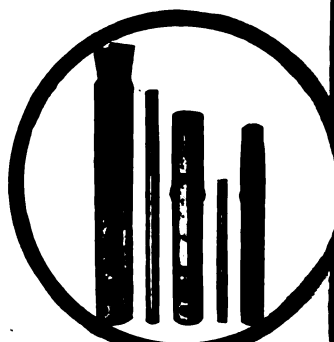
**UTILITY  
RIM WRENCH**  
For All Cars - \$1.75



**UTILITY DISAPPEAR-  
ING TRUCK BODY**  
For Fords - \$38.50



**UTILITY PROTECTED HEATER**  
For All Cars - - - \$9 to \$25



**UTILITY UNIVER-  
SAL WRENCH**  
For All Cars - \$3.50



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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## Editorial Contents

Jobbers' Association All Set.....	7
Bolshevism and Our Constitution.....	10
All in the Day's Work.....	15
Make Tractor Care a Habit.....	17
Scientific Construction.....	19
Better Mechanics Department.....	21
New A. C. Speedometer.....	26
Letters from Readers.....	27
The Law.....	29
Repairshop Short-Cuts.....	30
Automotive Equipment.....	32
The Retail News.....	33
Rural Motor Express Will Pay.....	35
Editorial Observation.....	36
There Is Money in Equipment.....	38
Departmentization.....	40
Three Good-Looking Garages.....	37
Coming Events.....	48
Specifications.....	49
Regular News Department.....	41

Advertisers Index on Pages 212-213



## 2 in 1 CUT FILLER

Is Easy and Quick to Sell

Every one of your car and truck customers will be interested in 2 in 1 Cut Filler. Sooner or later one or more of their tires will get a bruise, cut or gash. They know how the tires if not attended to at once. Order a display box containing tubes of 2 in 1 for your counter. Tell your customers all about 2 in 1 and what it will do for them.

### Powerful Selling Points of 2 in 1 Cement and Rubber All In 1

2 in 1 is easy and quick to apply and helps to cut down tire bills—because it saves them and helps them deliver their full mileage. An extra easy sale is almost sure to result. 2 in 1 Cut Filler is easily and quickly applied—keeps little holes from getting bigger—prevents formation of destructive sand and water pockets—keeps out fabric-rotting oil.

### Other Dutch Brand Products

Get to know more about the complete line of profit making Dutch Brand Products. Send for our FREE colored catalog. Tells all about 2 in 1 Cut Filler—Auto Patching Cement—Rubber Seal—Vulcanizing Cement—Radial Seal Compound—Carbo-Cide—Valve Grinding Compound—Auto Top and Cushion Coating—Gasket Shellac—Varni-Brite, and many others.

Dealers: Order Dutch Brand Products through your jobber.

## Van Cleef Brothers

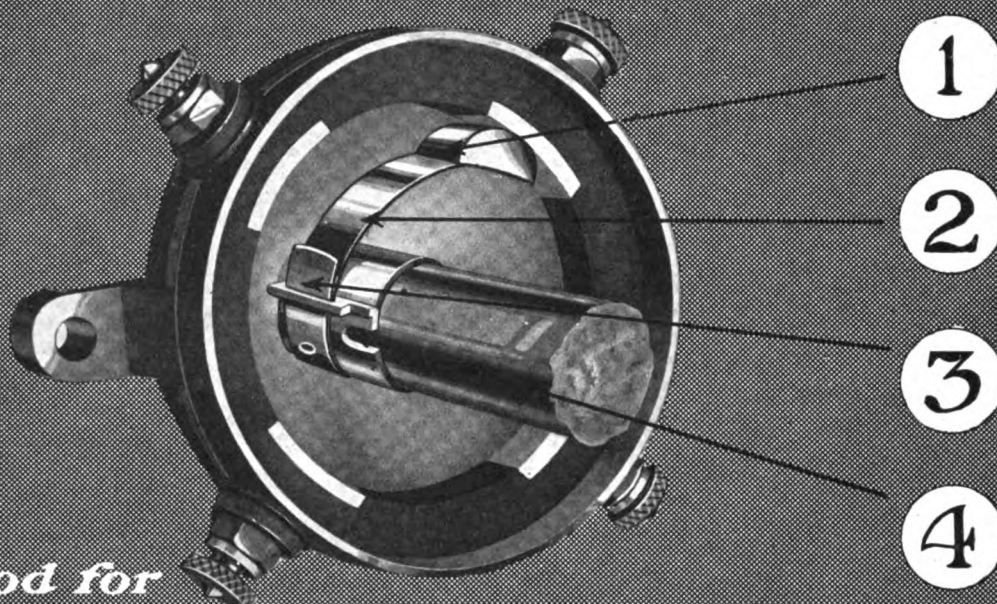
Manufacturers of Tire and Chemical Specialties

Woodlawn Ave., 77th to 78th St.  
CHICAGO, U. S. A.





# Miller Never Miss Timer



**Good for  
20,000 Miles**

**1** Rounded contact, brush of wear proof hardened steel, insures positive sliding contact with never-a-miss.

**2** Swedish steel spring, insures an even tension contact at all speeds, and under all conditions of service.

**3** Cushion Spring—acts as a shock absorber for the brush and absolutely prevents "jumping" or breakage in the event of backfire.

**4** Easy fitting Brush coupling. Fits any standard Ford Timer Shaft and permits use of MILLER "NEVER-MISS" Brush with any standard make of Timer.

## It Banishes Ford Timer Troubles

**—And Lasts About Five Times Longer Than  
Your Mischief-Making Roller Brush Outfit**

**W**HEN your roller brush timer has gone two or three thousand miles, its contact bed begins to look like a relief map of the Rocky Mountains. Pound, pound, pound—that's your roller brush: battering furrows and welts into the shoes, and leaving a series of ridges that spell misfire, gas waste, fouled plugs—no end of trouble.

### Miller's 25,000-Mile Idea

A man named Miller—Ford agent in a little Kansas town—was a Conscientious Objector to the roller brush and all its evils. But he wasn't satisfied with objections; he wanted a solution. And decided that he might as well find it himself.

First, he discarded the old, mischievous, trouble-making Roller. In its

place he substituted something entirely new—a sliding contact Brush. Result: No battered contact shoes, no misfires, no premature breakdown—but upward of 25,000 miles of flawless service.

For his timer—the MILLER NEVER-MISS—has a sliding contact brush, with a shock-absorbing spring. The contact bed stays as smooth as glass—has to. A hot spark four times around, every time around. Slow wear—the brush itself should stay on the job for 18,000 miles, and then a new one (for 80c.) will find the timer as good as ever.

*The Miller Brush, which makes possible the remarkable efficiency of the Miller Timer, can be purchased separately for use with any standard make of Timer. Even though the contact ring of your present timer is in bad shape the Miller "Never-Miss" Brush will wear it smooth again after about 500 miles of service. List price of Brush only—80 cents.*

### All This for a Two-Spot

The MILLER NEVER-MISS TIMER, brush and all, costs \$2.00. It will last five to ten times longer than your standard roller-brush timer. And give a thousand times better service.

Attached in a couple of minutes: You can do it. And never again let your dealer sell you one of those roller-brush misfire-breeders. Show him your "Two" and tell him what you want—a MILLER. If he hasn't got it, get it direct from us. We'll pay carriage charges.

**Dealers:** Miller sold 5000 a month in his dinky little township. The news spread like a gold find—and orders poured in from all over the state. Now it's going all over the country, with big advertising and sales co-operation to help out. Attractive discounts. Write to your jobber or to us.

**MIL-MAC MANUFACTURING COMPANY**  
1714 North Broad Street Philadelphia, Pa.



# SURE—

there was a tournament and a lot of individual playing of golf—and much that wouldn't or couldn't be catalogued as strictly business, but the convention of the Automotive Equipment Association at Hot Springs last week was a big success.

# BECAUSE—

the upwards of 500 members in attendance spent many hours of each day considering and working out of trade and industrial problems that will result in making the business of manufacturing and selling automotive equipment better and more profitable during the months to come.

Manufacturers and jobbers are coming more and more to realize that the "automotive dealer" is the keystone and the back bone of any plan that aims at success in merchandising. And the big men of the Automotive Equipment Association are the ones who are strongest in their expressed desire that Motor World keep up its vigorous campaign to make good dealers out of the poor ones, and better dealers out of the good ones.

To which we reply: "We will continue doing our very best."

## MOTOR WORLD



# Accurate adjustments



**QUICK-EASY**  
*with*

**LAMINUM**  
*The MATERIAL for SHIMS*

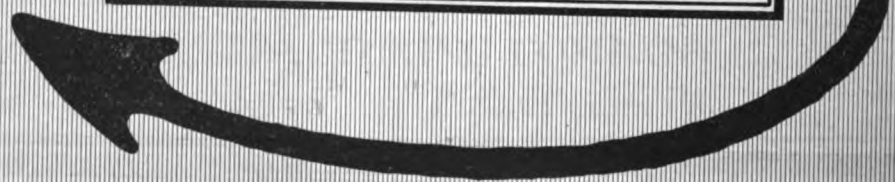
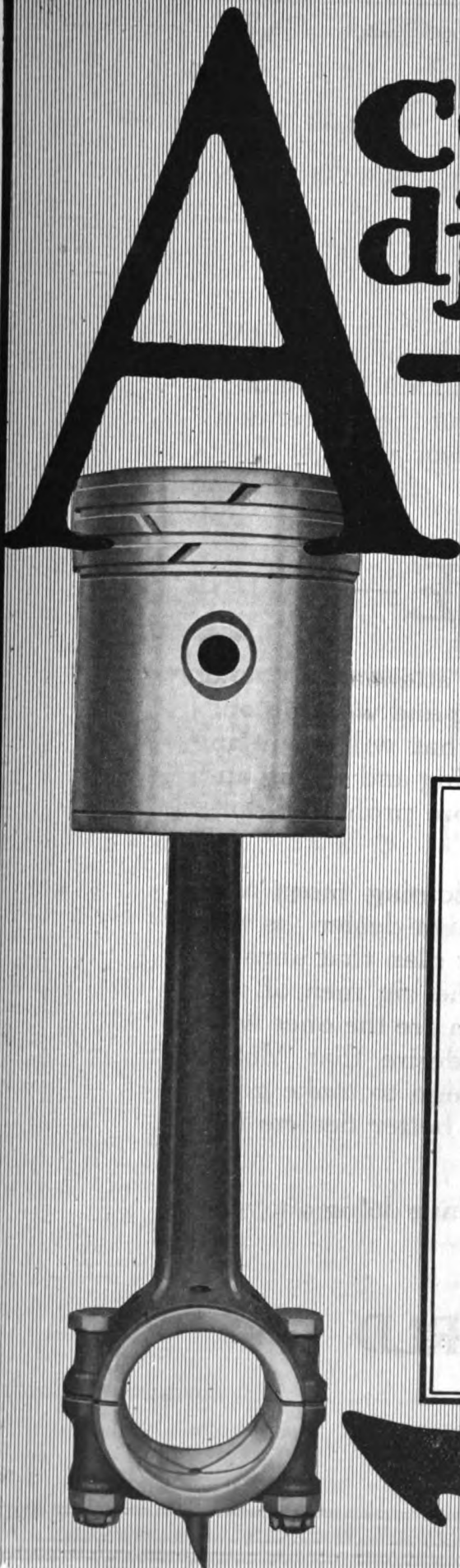
**W**HEN you use LAMINATED SHIMS you save not only time, money and labor, but you get far better results—better results because LAMINUM gives a surface smooth as glass and absolutely accurate. Why waste money, time and labor with solid or loose-leaf shims? Use LAMINUM for service, satisfaction and ACCURACY!

STOCK SHIMS for: Ford, Chevrolet Four-ninety, Continental 7-N, Continental 7-W, Maxwell, Overland, Dodge.

**Laminated Shim Company**

533 Canal St., New York

DETROIT: Dime Bank Bldg. ST. LOUIS: Mazura Mfg. Co.  
ENGLAND: R. A. Rothernel, 6 Great Marlboro St., London, W.





# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, June 11, 1919

No. 11

## JOBBER'S ASSOCIATION

### "Gets Set" for Big Future

*Rescinds Its Regulations, By-Laws and Constitution and Starts Forward with Clean Slate*

*Hot Springs Convention Biggest Ever Held in Point of Attendance and in Importance to the Trade—Exhibit to Be Held Nov. 3-8 in Chicago*

By Ray W. Sherman

**H**OT SPRINGS, Va., June 7. —The Automotive Equipment Association this week "got set" for a big future.

With the Sherman law litigation out of the way and with four years of building work behind it, it made big steps in shaping things for the years to come.

Lest some details of the past might continually creep into discussions and becloud the atmosphere and cause delays and indecisions, the association voted to rescind everything it ever did and start all over again.

The result will be that there will be a new constitution, new by-laws and new regulations. This work is now in the hands of a committee consisting of the president, vice-president and four ex-presidents, and the members are looking forward to the new plan under which operations will be carried on.

The Sherman law case served to show the association what a tangle it was possible to make out of its attempts at business opera-

tion. Hundreds of details were massed in a mess of information and misinformation and when the leaders in the association tried to

#### Those Pictures

**D**O you remember the MOTOR WORLD camera that snapped at you before you had time to get your necktie straight at Hot Springs?

You'll find the pictures in a special section, following page 16 in this issue.

Three hundred pictures were taken, and nearly every one of them came out well.

Look the section over and revive your memory as to names and faces. Also, keep this issue till next fall, so you can revive your memory before you go to the meeting in Chicago, Nov. 3-8.

determine what was what and how to plan for the future they found themselves up against a huge problem, so they said: "Let's

wipe it all off and start over again." Wherefore, the process of discarding useless material will be to discard the whole business and salvage what is worth while.

Much of the documentary foundation of the association had already outlived its usefulness. It was no longer of value. Its purpose had been served; but to determine accurately what was useful and what was not proved a matter of involved discussion, so a general discard was adopted with salvage of the worth-while as an easier matter.

Meantime the association continues substantially as heretofore. It will function under committee control and under the management of Commissioner William M. Webster and the other officers.

The convention was the biggest ever held. The Homestead Hotel registered 527 people, which is more than ever attended a session before. There were many wives and children present, and from every angle the session was the



most important ever held. Jobbers and manufacturers now receive equal compensation for attending, which probably had considerable to do with the number of manufacturing members present. As a first step in getting all set for the future, a motion to rescind everything was made at the first general session of the convention and was unanimously carried when put to a vote. A tribute was paid to the present board of directors by ex-President Charles E. Faeth and the entire membership seemed in harmony in respect to the plan for revision of the make-up of the Association.

It was stated that some members expressed fear of the future while some are indifferent, and that the attitude of all should be one of confidence in the organization and the trade it represents.

### Counsel at Meetings

The Board of Directors recommended that the association employ counsel to attend its meetings in order that first-hand advice may be available on matters where it is required. Now that the association has had some experience in litigation, it has become a practice with some members to raise legal questions at almost every point, and it is felt that the presence of an attorney will expedite matters considerably.

The convention began Monday with committee meetings Monday and Tuesday. The general sessions opened Wednesday and were planned for Thursday and Friday, but it rained so hard Thursday afternoon that the golf tournament was postponed until Friday morning, and, by holding a session Thursday afternoon, the business was cleaned up that day and adjournment was made about 5 o'clock Thursday.

The convention opened with an address by Commissioner William M. Webster, in which he set forth the need for loyalty to the association and to the country. In citing what co-operation can do, he told how the association had secured special cars to bring western members to the convention, after local officials had said it could not be done.

### Some Resignations

Never until this meeting of the association were there any resignations of consequence, but, in getting set for its future work, the organization accepted the resignations of 12 jobbers and 20 manufacturers. The reasons given were varying, and included, "sold out or discontinued the business," "policy changed," "change in organization," "not now in the jobbing business," "assessment too high," "expense not justified," "local difficulties," "not satisfied" and "lack of co-operation." The resignations are printed elsewhere, in connection with this story.

### Exhibit Nov. 3-8

The business exhibit of the association in Chicago, Nov. 3 to 8, in connection with its annual convention, is the most important work before the association in the immediate future. This exhibit which was planned for last October and called off on account of the war, will be

## 22 New Members

### 7 Jobbers

J. H. Haney & Sons.....Omaha  
Independent Electric Co., Regina, Sask.  
Martin-Evans Co.....Brooklyn, N. Y.  
Peaslee-Gaulbert Co.....Louisville  
E. L. Taylor & Co.....Richmond, Va.  
Terre Haute Automobile Co., Inc.  
Terre Haute  
W. R. Wheeler Co.....Indianapolis

### 15 Manufacturers

American Chain Co.....Bridgeport  
Anderson Electric Specialty Co.  
Chicago  
Ashland Products Co.....Ashland, Ohio  
Auto Metal Parts Co.....Des Moines  
B. & W. Mfg. Co.....Chicago  
Black & Decker Mfg. Co.....Baltimore  
Champion Ignition Co.....Flint  
Coe Stapley Mfg. Co.....New York  
Corcoran Mfg. Co.....Cincinnati  
Dole Valve Co.....Chicago  
Edgar C. Guthard Co.....Chicago  
K-D Lamp Co.....Cincinnati  
Monroe Auto Equipment Co.  
Monroe, Mich.  
Sinclair Refining Co.....Chicago  
Van Briggie Motor Device Co.  
Indianapolis

held as originally scheduled in Medinah Temple. Manufacturing members only will be permitted to buy space on account of the limited amount that is available. The jobbing trade, however, regardless of membership, will be invited to visit the exhibit. The convention which will be held at the same time will be the association's annual meeting, at which time officers will be elected.

In connection with exhibits, mention was made of local exhibits by jobbers, but the matter did not reach the point of discussion and nothing definite developed on this point.

### Battling the Bolshevik

An interesting talk on "How to Combat Bolshevism" was given by W. K. Evans of Indianapolis, who formerly was engaged in government secret service work. He said the Bolshevik makes a practice of entering a plant as an employee and very often does not let himself become known for a year or a year and a half, if that length of time proves necessary for him to curry favor with the workmen and get his propaganda under way. Evans suggested that employers secure the confidence of some of their older and more trusted employees in order that the employers may have immediate information as to the appearance of the propagandist.

Thursday both manufacturers and jobbers met in general session. Harry F. Atwood, author of "Back to the Republic," stirred the convention with a talk on the need for cool-headed action in these disturbed times and a return to the principles of the constitution of the United States. His address is printed on pages 10-14.

It was voted to do away with the limit on dues. At present this limit is \$500 and

the figure has caused considerable misunderstanding. The assessments never have reached this amount, but when bills have been sent out the limit has often been for the full \$500 with a statement that the difference between the actual assessment and the \$500 would be rebated for prompt payment. The matter has been so generally misunderstood, however, that it was voted to do away with this limit and run the association on a straight assessment basis.

### Finances in Good Shape

The financial report showed the organization to be in a good condition. It has \$17,946.37 in cash and \$50,000 in Liberty bonds. For the defense in the Sherman law litigation, there was raised \$122,227.06 and the expenses ran \$6,703.86 over this amount, which may be wiped out if some of the unpaid pledges are received and if some members who did not make pledges give assistance.

One jobber wanted to know if it was good business to sell merchandise to municipalities and large commercial houses on dealers' terms, and whether this tended to break down the dealer merchandising system. One member said that in his city certain merchandise was sold to commercial houses which maintained five cars or more and another jobber stated that he handled, as a dealer, any commercial house which had a fleet of ten cars, ran its own garage and employed at least one mechanic on a regular payroll.

On the other hand, one jobber stated that there was no more reason for a commercial house with five cars expecting dealer terms, than there is for a man expecting wholesale grocery prices because he has five children. One member contended that the more jobbers did to help the dealers build up successful businesses the more loyal the dealers would be to the jobbers as a fraternity.

### Quantity Discounts Again

The old question of whether or not quantity discounts should be a factor, came up again and provoked the usual discussion, all of which ended as it has on previous occasions without any definite result. As has been the case on other occasions, there were active debaters on both sides. The only point on which there seemed to be any definite agreement is that a seller is entitled to compensation if he breaks a package.

One of the reasons why some of the jobbers do not like the quantity discount is that it tempts a man to load up with too much stock and tie up too much money for the sake of getting a little better price. On the other hand it was contended that the man who does well with a particular line of goods is entitled to compensation for his work.

So far as overstocking is concerned, it was suggested that jobbers with surplus goods on hand, could in many cases, get out of the difficulty if they would take the matter up with other jobbers, because, it was stated, there is hardly an instance of that kind where there is not some jobber who would be glad



to take the stock. F. T. Andrae stated that he had an overstock which cost him \$3,000 and which he had decided to write off in the inventory at \$300, but that by using Commissioner Webster's official bulletin he had disposed of it for \$2,600.

### Good Work in Standardization

F. T. Andrae, chairman of the Standardization Committee, which has been doing good work, stated that it would be a good thing if more members would spend more time in their shipping and receiving rooms. He stated that boxes often come unmarked and that a clerk has to take the box apart before he can find out what the stock is and that the box must then be labeled by the clerk if it is to be put in stock. He suggested that buyers when they order goods stipulate how they should be marked, and that every box should be labeled with figures of large size that are easily read and that every container should carry a picture of the article that is inside. He said that the claims department handles about 5 per cent of everybody's business and that this percentage can be cut considerably if more attention be paid to the recommendations of the Standardization Committee.

This committee is endeavoring to secure the adoption of the decimal system which makes pricing easier.

An effort is being made to standardize loose leaf pages for salesmen's data books.

It was voted that the Commissioner gather data on the cost of doing business, as he did on a previous occasion. The last figures gathered were for the year 1916 and the convention expressed curiosity as to how these figures stand today.

The reports of state vice-presidents on local organization work indicated that the organization movement generally is making progress in a substantial way.

The convention voted to open future sessions with prayer.

A resolution was passed favoring universal training.

Considerable amusement was created by the statement in one of the sessions that a typewriter company in Chicago had gone into the automotive equipment business and in fact will sell "merchandise of all kinds" in response to a demand made upon it by its satisfied customers.

### Manufacturers Meet

Wednesday evening the Automotive Equipment Manufacturers, which had its beginning with the manufacturing members located in Chicago, held a meeting in the Casino to which all manufacturers were invited. Most of the discussion related to the excise tax on automotive equipment and after it was all over little real information seemed to be available. The manufacturers told of conflicting rulings they had received and of their inability to get definite statements from officials.

The officers of this association are: President, Howard E. Patterson, War-

## 32 Resignations

### 12 Jobbers

Michael Ert.....Winnipeg  
Hilliard & Yokes Co.....Erie, Pa.  
Herrlinger Auto Sup. Co.....Cincinnati  
Bittel-Leftwich Co.....St. Louis  
Electric Mfg. Co., Ltd.....St. Paul  
Great West Saddlery Co.....Winnipeg  
N. H. Bragg & Sons.....Bangor, Me.  
Dyke Motor Supply Co.....Pittsburgh  
Jos. Woodwell Co.....Pittsburgh  
Morley-Murphy Hdwe. Co.  
Green Bay, Wis.  
Roehm & Davidson.....Detroit  
Elyea Company.....Atlanta

### 20 Manufacturers

Caskey-Dupree Mfg. Co.....Marietta, O.  
W. H. Hoover Company  
New Canton, O.  
Crew-Levick Co.....Philadelphia  
Keyless Auto Clock Co.....New York  
N. Y. & N. J. Lubricant Co., New York  
Hayes Mfg. Co.....Detroit  
A. J. Stephens Rubber Co.  
Kansas City  
American Bronze Corp.....Berwyn, Pa.  
Bailey Non-Stall Differential Corp.  
Chicago  
James H. Rhodes & Co.....Chicago  
Vesta Accumulator Co.....Chicago  
Premier Electric Co.....Chicago  
Indian Refining Co.....New York  
Lane Brothers, Poughkeepsie, N. Y.  
American Electric Co.....Chicago  
Brown & Caine, Inc.....Chicago  
Hide Leather & Belting Co.  
Indianapolis  
Vital Manufacturing Co.....Cleveland  
Rel'x Ignition Co.....Cleveland  
Brown Spring Oiler Co.....Cleveland

ner-Patterson Co., Chicago; vice-president, E. A. Bates, Findeisen & Kropf Mfg. Co., Chicago; treasurer, Franklin Mayo, Mayo-Skinner Mfg. Co., Chicago; secretary, Noah Van Cleef, Van Cleef Bros., Chicago.

### What California Has Done

Robert W. Martland of Oakland aroused enthusiasm with a story of how the California Automobile Trade Association has grown and benefited the trade in that state. He said it started five years ago in Oakland with 68 members and in a month had four local associations and 210 members. To-day there are 42 locals with 2700 members. He stated that the association endeavors to teach the trade that there is such a thing as overhead and that the public is entitled to courtesy and fair treatment. The public has approved of these principles and the association has made it possible for members to take advantage of this approval by lending to members an insignia which tells the motorist that a garage is a member.

If any car owner receives what he considers unfair treatment, he may complain to headquarters and he will receive redress. If the dealer or garageman is found to have overcharged, he must make a refund to the customer or his insignia is taken away from him.

Martland told of instances in which

association effort has led to the establishments of supply departments in garages with an increase in business from \$75 to \$1,000 a month.

He said that one day in the San Joaquin Valley he found a clean garage and said to the man: "It's a wonder you don't carry accessories." In a closet the garageman showed him a \$1,000 in staples under lock and key and explained that if he put them outside some one would steal them. This man's stock in seven months increased to \$2,500 and his business from \$75 to \$1,000 a month.

In Pomona, two years ago, was a man with an 80-ft. front and 25 ft. of it devoted to a display window which was far from clean. To-day the window is clean, there are 32 ft. of showcases on the driveway and the man is making \$12,000 a year out of supplies.

Martland told of another man who began in 1912 and in the first year made \$5,000, but at the end of June, 1917, he was a thousand dollars worse off than he was when he started. Through association effort his business was so improved that in December, 1917, he deposited \$13,000 in the bank and bought a \$690 cash register.

Last September the California trade went on a cash basis to the extent of about 75 per cent of the association membership.

Martland urged the jobbers to go home and lend all the assistance they could in the organizing of the dealers and garagemen in their territories.

### The Ladies Ride

Thursday the association entertained the ladies with a drive. This took in Warm Springs where a short stop was made to look over the registers of the hotel, as this historic point was of great interest to all. They then drove on to Fassifern Farm where an excellent chicken dinner was served to the fifty or more ladies who were attending the convention. The return was made by way of Dunn's Gap. The drive started at 11 o'clock and the return was made by 4.30.

At cards Miss Grace Webster and Mrs. Webster won respectively at bridge and "500." H. J. Hopkins won first at bridge and Fred W. Kohl first at "500."

### What Was YOUR Scare?

The golf tournament was to have been held Thursday but was postponed until Friday on account of rain. T. M. Brooks won the Brunner trophy which must be won three times in succession for permanent possession. L. M. Lloyd won the Stiles trophy and Charles E. Faeth was third, winning the Challoner cup. The fourth prize was won by Sidney B. Dean and the fifth by Frank T. Chase. H. M. Cooper won the blind bogey and Robert A. Stranahan first prize for driving. K. S. Byrd and F. R. Hall were respectively second and third. Clark Powell won the putting contest. Ladies' prizes were won by Mrs. B. J. Grisby and Miss Anne Stranahan.

The session Thursday afternoon was enlivened by the presentation of a doil



to ex-president Charles E. Faeth, who was reported to be celebrating his birthday. William K. Norris of St. Louis

made the presentation speech but Faeth denied the rumor as to the birthday although he accepted the doll.

# Bolshevism— And Its Antidote —Our Constitution

By Harry F. Atwood  
Author of "Back to the Republic"

WHEN Atwood told his story before the convention of the Automotive Equipment Association at Hot Springs last Thursday he was interrupted many times by cheers and when he had finished the convention rose and cheered and applauded and made him come back to the platform to acknowledge their approval. Atwood's plea is for common

sense and a return to the first principles of our republic as set forth in our constitution, and he sets forth this historic document as a cure for all the ills of Bolshevism and discontent. He says we have wandered far from the course on which our country set out over a century ago and that what we need is wise statesmen instead of "crowd followers."

IT is a rather startling statement, but it is an indisputable fact, that during all the thousands of years prior to the writing of our constitution and the founding of this republic, there was no government to which the historian could point and truthfully say "There was a government that worked well."

Now while that is an unusual statement, it is just as true as it would be if I should say that prior to the evolving of the ten digits, there was no system of mathematics to which the historian could point and truthfully say "There was a system of mathematics that worked well."

During all those thousands of years the pendulum of government was swinging back and forth from one extreme to the other, just as it has done recently in Russia and is now doing in Germany, swinging back and forth from the extreme of autocracy, which has always resulted in tyranny, to the extreme of democracy which has always resulted in chaos.

Since that word has been used so frequently and so much during recent years, I want to pause just long enough

to say that it is an innovation in the life of this country to refer to our government as a democracy. Up to nineteen years ago we scarcely, I might almost say never, referred to our government as a democracy. The men who founded this government were more fearful of democracy than they were of autocracy, and said so just as clearly as I am talking now.

They gave a very clear distinction between a republic and a democracy, and said that they had founded a *republic*; and in order that there may be no misunderstanding, I want to read exactly what they did say. You will recall that after the constitution was written, Hamilton, Jay and Madison were appointed to interpret the work, and in *The Federalist*, Madison says:

"What, then, are the distinctive characteristics of the *republican* form? Were an answer to this to be sought, not by recurring to principles, but in the application of the term by political writers, to the constitutions of different states, no satisfactory one would ever be found.

"Holland, in which no particle of the

supreme authority is derived from the people, has passed almost universally under the denomination of a republic. The same title has been bestowed on Venice, where absolute power over the great body of the people is exercised, in the most absolute manner, by a small body of hereditary nobles.

"Poland, which is a mixture of aristocracy and monarchy in their worst forms, has been dignified with the same appellation. The government of England, which has *one republican branch only*, combined with an *hereditary aristocracy and monarchy*, has with equal impropriety, been frequently placed on the list of republics. These examples, which are nearly as dissimilar to each other as to a genuine republic, show the extreme inaccuracy with which the term has been used in political disquisitions."

The above quotation indicates how forcefully Madison called attention to the gross misuse of the word "*republic*" in his day. He was very jealous of the use of the term. He was extremely conscious and justly proud of having played an important part in helping to found the first republic in history. He knew the difference between an *autocracy* and a *republic* and he objected to having autocracies spoken of as republics. He also understood quite clearly the difference between a *republic* and a *democracy*. His description of democracies is a splendid word-picture of the Russia of to-day. Again, in *The Federalist*, he said:

"Hence it is that such democracies have ever been spectacles of turbulence and contention; have ever been found incompatible with personal security or the rights of property, and have in general been as short in their lives as they have been violent in their deaths. Theoretic politicians, who have patronized this species of government, have erroneously supposed that by reducing mankind to perfect equality in their political rights, they would, at the same time, be perfectly equalized and assimilated in their professions, their opinions and their passions. . . . A *republic*, by which I mean a government in which the scheme of representation takes place, opens a different prospect, and promises the cure for which we are seeking. . . . The two great points of difference between a democracy and a republic are, first," etc.

I just raise that point to make it clear that the men who founded this government had *no thought of founding a democracy*, and while this may seem a rather extravagant statement, I believe that 75 per cent of the ills from which we have been suffering during the last eighteen or nineteen years are due to the prevalent misuse of the word *democracy*. I said to a man some time ago, just as an illustration, that Lincoln never used the word. This man had written a book of six hundred pages, on the life of Lincoln, and said he had used it often.

I asked him to find it. He made a



search and found where Lincoln had used it once.

### Former Governments Failed to Secure Fundamental Privileges

The point I want to make first, is that there was no government prior to the writing of our constitution and the founding of this republic, that could secure for its people either religious freedom, or civil liberty, or freedom of speech, or freedom of the press, or security of individual rights, or popular education or universal franchise; just the securing of any one of those things during all those thousands of years had baffled philosophers and statesmen.

Immediately upon the adoption of our constitution and the founding of this republic, we began automatically to secure all seven of those privileges for the first time. We wielded a wholesome influence on other countries and they began to secure them just in proportion as they imitated the ideas promulgated in that constitution.

In this country, after we had adopted the Declaration of Independence and the Articles of Confederation, there was no greater chaos anywhere; we failed absolutely on American soil until we wrote that constitution.

The year before we wrote our constitution, the mob drove our Congress from Philadelphia to Princeton, Shay's rebellion drove the Legislature out of the State House of Massachusetts.

Our money was worth two and a half cents on the dollar.

Trade was paralyzed.

Commerce was dead.

We could not raise an army, we could not raise revenue and we had absolutely failed, when we subscribed to the doctrine that all men are created equal, which is another statement that has created much false discussion in this country, because we all know that men are not created equal, nothing is created equal and what Providence did not see fit to do, it is impossible for mankind to do through legislation.

Aristotle is quoted more on the science of government than all of the other men that lived before our constitution was written. He gets twenty-two pages in the Encyclopedia Britannica, and, true to British form, they failed to get the main point of his life even in that length of space, but his contribution was this: he said that *autocracy was one extreme and must result in tyranny, because the element of heredity enters in.*

*Then he said that democracy resulted in chaos, because it was based upon emotion and mob spirit. The world has been growing mob-minded during recent years through the mob appeals made by the men in all countries and all parties.*

Aristotle said that there ought to be a form of government between the two that would provide for the selection of the best. Just for having that concept, he is quoted more on the science of government than all the other men that lived prior to the founding of this republic and the writing of our constitution.

This indicates that up to that time, government was a rather dark science.

### Republic the Golden Means Between Autocracy and Democracy

What Aristotle had in concept, Alexander Hamilton and his followers created. They provided for a representative government, the golden means between autocracy and democracy. Now if we knew no more about the laws of food than we do about the science of government, we would assume that the more food you eat, the stronger you would get; and yet we know that if you go below the point of nourishment, you are in some degree of starvation, and that is like autocracy, the aspirations of the people starve.

If you go beyond the point of nourishment, you are in some degree of gluttony, and that is like democracy, it will not function and never did.

If we knew no more about the laws of seed sowing than we do about the science of government, we would assume that the more seed you sow, the better crop you will get, and yet we know that if you sow too little, you will get little crop and if you sow as much as you hope to harvest, you will get no crop at all: and there is no field of activity where the danger of extremes and the laws of golden means apply so fundamentally as in the science of government, because it comes so close to human nature.

### Republic the Standard Form of Government

I was glad to hear so much talk in the discussion this morning about standards, because when those men founded this government they evolved a standard form of government. They did for the science of government exactly what the man who made the clock for the keeping and recording of time did in the realm of time; exactly what the man did in the realm of mathematics who evolved the ten digits. We have never had to change them but have adopted them universally.

*Our constitution was to the science of government exactly what the golden rule is to moral philosophy.* It provided for a standard form of government and the first that ever worked well, and following its adoption we had a hundred years of the greatest progress the world has ever known, physically, mentally and morally. We developed more statesmen in that hundred years than had ever been developed in all the history of the world, in all the other countries before or since. That is a pretty fair proof that our constitution was provided for the standard form.

### One Hundredth Anniversary of Constitution

We observed its one hundredth anniversary in Philadelphia in 1887, and unless you have already seen the report of that convention, I can think of nothing outside the Bible that would be of greater inspiration. It was one of the greatest meetings, probably the greatest, ever

held in the history of the world. All of the great editors and men of affairs, statesmen and authors were invited, not only from this country but other countries, and the books that were written by Hampton L. Carson and published by Lippincott & Co. giving an account of that one hundredth anniversary, contain the replies to the various invitations sent out. It was in reply to an invitation and in declining it that Gladstone observed that the constitution was *"the greatest piece of work ever struck off at a given time by the brain and purpose of man."*

I do not think we yet have begun to penetrate even the crust of the importance of that constitution—over 40 per cent of the American people have never read it, yet it was the most important human event in history, ranking second only to the birth of Christ, and the story of its achievement is the greatest in the history of the world outside the life and the work of Christ on earth.

The one man who seemed to get something of the importance of it was William Pitt, the greatest statesman in England at that time, the greatest statesman England ever produced and the greatest ever produced in the history of the world outside American soil. When he read that constitution he said *"It will be the wonder and admiration of all future generations and the model of all future constitutions."* He could not possibly put it stronger than that; that was saying it was a standard and should have been adopted by every country in the world and so sure as progress continues, that is bound to occur.

### Republic the Basis for Efficient Organization

If you could get the people to thinking about that Constitution and coming to understand it and desiring to adhere to it you would overcome a great many of your industrial difficulties, because that constitution provided for running a government just as a successful business is run.

It provided for an executive and deliberative body, and the appointment of heads of departments; but along toward the latter part of the last century, we began drifting away from the constitution. Instead of the various states which, in the constitution, are guaranteed a republican form of government accepting that guarantee, *they began drifting off toward democracy and providing for a long ballot and the election of a great long list of names.*

Out in Chicago where I come from, we had a ballot in 1914 that had *three hundred and thirty-four candidates on it* and a lot of printed questions that the voter was supposed to pass upon intelligently in two minutes of time, and we began talking about the initiative, the referendum, the recall and the recall of judicial decisions; and boards and commissions.

### Dangerous Experiments

In the ten-year period from 1901 to 1910, as an illustration, we more than



doubled the expenses of government in every state in the union. Out in the state of Wisconsin, which was held up for a while, as the model form of progressive government and we were importing carloads of students from eastern universities to study it in order that they might be helped by a knowledge of this model form of government—out there, under the régime of their patriotic senator (laughter), where they also produced the socialistic Milwaukee Congressman, they nearly multiplied their expenses of government by three in ten years. If they should keep that up, not for a hundred years but for two decades, it would confiscate the property of the state; and we are heralding, as the ideal, a tendency that in twenty years would confiscate the property within the borders of the state.

During the period from 1905 to 1909 in this country we enacted 62,343 new statutes, and we had over 65,000 decisions of courts of last resort, and compiled 631 new large volumes of decisions. If we should keep up that tendency for a hundred years, there would not be room in all the public buildings to store the printed matter and no one would know where they were at, or what they were doing or what they ought to do.

We have so many legal volumes now that if a lawyer were to read them before being admitted to the bar, he would not complete them by the time he was three score and ten.

Out in Illinois we had 128 boards and commissions. We had, among other things, a board on rivers and lakes and another board on waterways. I don't know what the difference would be in an inland state. At any rate, however, the board on waterways had a chairman at \$6,000 a year; four members at \$5,000 each, a secretary, a chief clerk, elaborate headquarters with private building at public expense, etc. If you should go to the board on rivers and lakes they would tell you to go to the board on waterways, and if you went to the board on waterways, they would send you to the board on rivers and lakes. We struck out the one hundred and twenty-eight boards and commissions by a single act of the legislature last year, and have not missed a single one of them.

Now Alexander Hamilton, to whom I think we owe more than any other thousand men for our constitution and for enlightenment in political science—I think he was the greatest governmental genius the world ever knew—when he saw Congress appointing the first board, he said, "*This, in my opinion, is a bad plan.*"

I think we will concede that Abraham Lincoln had as much to do as any one with saving the republic; he said he would do it under the constitution whether he freed the slaves or not, and the last thing he said, on the night of his assassination, just before he started for the Ford Theater, was to Mr. Ashmun, who had presided over the convention of 1860 which had nominated Lincoln for President. Mr. Ashmun called

on him and reminded him that he still had the gavel he wielded in that convention, and how highly he prized it, and after a short conversation he said, "Mr. Lincoln, I am interested in a cotton claim and I want you to appoint a commission to investigate the matter and report." Lincoln replied with so much earnestness and warmth that he afterwards apologized to Mr. Ashmun for his abrupt manner, "*Ashmun, I have done with commissions, I think they are contrivances to cheat the government.*"

To my mind that is the best definition ever given of a commission, and it applies to all of them, I do not know an exception, and the Inter-State Commerce Commission is one of the best. It is almost as perfect an illustration of the usefulness of a commission as Russia is of the benefits of a democracy. And I am glad that Lincoln said that on that last night of his life, after he had had all the earthly experience he could, and after he had reached the sanest judgment that was possible, and I wish that those words might be written all over this country in letters of gold by day and with moving electric lights by night, as the last solemn warning of the mighty Lincoln against the wholesale appointment of boards and commissions which is threatening this country and threatening the safety of the world.

#### Failure to Distinguish Between Constitutional Provisions and Statutory Enactments

Down in Oklahoma, another thing that the state did, they began confusing constitutional provisions with statutory enactments, so that in Oklahoma they wrote into their constitution that an inn keeper must provide his guests with sheets not less than seven and a half feet long, and it took fifty pages to write a constitution for that state.

There is a difference between a constitutional provision and a statutory enactment. There is a good deal the same difference that there is between the golden rule and the Ten Commandments. The golden rule has in it all that there is in the Ten Commandments and a lot more, but it would spoil the golden rule if you tried to write the Ten Commandments into it; and each of the Ten Commandments is simply a special statement of a possible provision of the golden rule.

There is about the same difference that there is between the ten digits and the working out of a problem of mathematics on the blackboard; there is about the same difference that there is between the alphabet and the spelling of a word.

We did not feel that it was necessary, when the word Bolshevism came along, as a synonym for democracy, to amend the alphabet, but we just applied the alphabet intelligently to the spelling of the word. And so we keep putting statutory material into our constitutions and lengthening them—why, you ought to read, for amusement, the Ohio state constitution or the Oklahoma state constitution. Everybody ought to be penal-

ized and required to read the one that was submitted to the people in New York, which justly was defeated by something like 135,000, I think. It covered eighty-seven pages of fine print and contained nearly every nostrum that radicals have conceived of during the last thirty years.

I wish the time would permit me to take up some of the illustrations of what the initiative and referendum and the recall of judicial decisions has done.

The condition of the people has been a good deal like what John J. Ingalls conceived that of Senator Voorhees to be. Voorhees was one of these barnstorming orators who wore a Prince Albert coat and a black tie and carried his hand gracefully to his chest. Like most of our modern demagogues he dealt largely in generalities and loved the applause of the galleries. He had talked for an hour and a half in the United States Senate, and had risen periodically to heights of eloquence when his eyes rolled up to the gallery where they were applauding, and finally, after a great burst of eloquence, he sank almost breathless into his chair. The gallery was still applauding.

The party vote in the Senate was very close, and while it was not a very important question, they were rather anxious it should not carry and they wanted someone to reply, and finally determined upon Senator Ingalls, of Kansas. He rose and said, "If the very eloquent gentleman from Indiana would pluck the feathers from the wings of his imagination and stick them into the tail of his reason, he would pursue a straighter course."

There isn't anything that we need to do so much to-day with reference to these popular fallacies as to pluck the feathers from the wings of our imagination and stick them into the tail of our reason. And, by the way, that's all Ingalls had to say.

#### Constitution Interesting and Easily Understood

Now there is a general impression that the Constitution is a rather dry, difficult document to understand, and most of our writers upon the Constitution who have tried to appear scholarly and written books of four or five hundred pages on it, have made each part of their writings more difficult to understand than the Constitution itself; but it is a very simple document. Like all great things, it is as simple as the ten digits, as simple as the golden rule, as simple as the Ten Commandments, as simple as the mechanism of a clock. It contains just four elements, and in my book I diagrammed it because I thought perhaps it would make it a little clearer. It is just as perfect as that diagram. That is all there was to the Constitution.

*It said there shall be a legislative body, and enumerated their qualifications and defined their powers; it said there shall be an executive, and enumerated his qualifications and defined his powers, and gave to the legislative and executive body in a representative capacity all*



*power of appointment, all power of legislation and all power to raise and expend money, and require them to do just two things, create a judiciary to pass upon the justice and legality of their acts, and recognize certain inherent rights of person and property that no one could take away.*

### Individual Rights All Important

The main thing they had in mind was stopping the swinging of that pendulum from one extreme to the other and protecting the individual rights of person and property. They founded a representative Government; there was no intent—this is not so popular to say now after the kind of talk we have heard for the last twenty years—but *there was no intention*, by the men who founded this Government and wrote the Constitution, *that any question would be submitted to the people, and during the first 100 years, there were no questions submitted to the people.*

### Republic Absolutely a Representative Government

*There is a great difference between submitting to the people the selection of a representative and the problem of deciding the question itself; there is just as much difference as there would be in selecting a surgeon and having to do with the details of where he should make the incision, and just as much difference as there would be if an artist should be engaged to do a piece of work, to decide whether or not you thought he was a good artist, or whether or not, in the midst of the making of his picture, he should pause and ask whether he should use red, or gray coloring at a certain point; if he did that, he would make a mighty poor picture.*

Whenever a question is submitted to the people, we have found that it simply drifted into class appeal. The Government ceases in this way to become a strictly representative Government. The difference between an autocracy and a democracy and a republic are that an autocracy derives its power through heredity, a republic through regularly selected representatives, and a democracy derives its power through direct voice, and *every democracy founded has gone down into chaos and an autocracy has had to rise on its ruins to save it.*

### Democratizing Industrial Institutions Means Russianizing Them

I see you are talking about democratizing your industries, and I want to say that when you do, you will take the first step toward Russianizing them. What I am giving you to-day is no millennium. It is something that has been tested. I am simply telling you what Aristotle had in concept and what Hamilton and his followers created and what John Marshall interpreted, what Daniel Webster expounded, what Abraham Lincoln saved, and what, in my judgment, McKinley tried to perpetuate.

Daniel Webster stands at the moun-

tain peak of New England history, and for one reason, that he devoted as a statesman his entire life to the study and comprehension and expounding the Constitution. It is the only thing that Russia needs to-day to straighten out her problems, and the only thing that will do it; it is the only thing Germany needs to start her off; it is the only text book they need at the Peace Table.

Now Daniel Webster, you know, when he rose to make his reply to Hayne in that greatest debate in the history of the United States Senate, which is the greatest legislative body in the world, said, "When the mariner has been tossed for many days, in thick weather, and on an unknown sea, he naturally avails himself of the first pause in the storm, the earliest glance of the sun, to take his latitude and ascertain how far the elements have driven him from his true course. Let us imitate this prudence, and before we drift farther upon the waves of this debate let us return to the point from which we started in order that we may ascertain where we now are."

*Is there anything you business men can do with so great profit as to return to that Constitution, the point from which we started, and ascertain how far you have departed and get back to that point just as soon as you possibly can?*

### Extreme Democracy is Bolshevism

I am glad to make this appeal to business men. You know *Bolshevism is nothing but extreme democracy*. I have never yet met anybody who could refute that proposition. When any one is extremely gluttonous they say they are hoggish. It is the same thing, and what hoggishness is to gluttony, Bolshevism is to democracy.

THE FOUR MOST DANGEROUS GROUPS OF BOLSHEVISTS IN THIS COUNTRY ARE FIRST, A LARGE PERCENTAGE OF OUR SO-CALLED EDUCATORS. AND THE NEXT MOST DANGEROUS GROUP ARE THE MEN WHO ARE BABBLING ABOUT INDUSTRIAL PROBLEMS FROM THE PULPIT WITHOUT KNOWING ANYTHING ABOUT THEM, INSTEAD OF BEING WELL GROUNDED ON THE BIBLE. AND THE NEXT MOST DANGEROUS GROUP ARE NEWSPAPER MEN; I MEAN A LARGER PERCENTAGE OF THEM, WHO, FOR CIRCULATION, ETC., ARE WILLING TO APPEAL TO THE MOB-MIND. AND WHO ARE VERY RECKLESS ABOUT PRINTING THE TRUTH OR MOULDING PUBLIC SENTIMENT IN THE RIGHT DIRECTION, THE THING FOR WHICH THE PRESS WAS REALLY CREATED; AND THE FOURTH MOST DANGEROUS SET. MUCH BEYOND THE DIRTY FACED. LONG HAired FELLOWS. WHO TRY TO MAKE US THINK THEY ARE BOLSHEVISTS—ARE 70 PER CENT OF THE MEN IN PUBLIC LIFE WHO DO NOT ADHERE TO THE CONSTITUTION AND ARE CONSTANTLY PLAYING TO POPULAR FALLA-

CIES AND APPEALING TO THE MOB-MIND AND MAKING A CLASS APPEAL.

### Founders of Republic Knew Class Thought or Class Appeal to be Disastrous

There was no thought of any class appeal by the men who founded this Government. We scarcely ever used the phrase "labor and capital," during the first century; it was a question of industry. I myself believe that so long as you have a Department of Labor and a Department of Commerce, that you will have class differences, because it assumes that there is a difference and that the interests of employer and employee are not absolutely mutual.

We referred to it always as a question of industry, and there was no class distinction; we made no reservation whatever, even as to the presidency of the United States, we did not provide that he should come from any class, but simply that he should develop character and capacity so that he should be qualified, and we took a rail-splitter and a mule-driver from the tow-path of the canal and a tanner boy and made them great presidents, because this was a government where we provided for the rights of persons and of property, of the individual, and encouraged individual initiative, and that is why we developed as we did.

It was the first time that there had been a government founded that knew human nature well enough to encourage individual initiative, and that that must always be the underlying factor in the development of the race.

This is such a big subject that it is difficult to discriminate as to what to say about it. As an illustration that the men who founded this Government had no thought of popular fallacies there were men in that Constitutional Convention who were full of these modern milleniums—the recall was suggested in the Constitutional Convention, even for Congressmen, and there are a lot of fellows who go around now and pretend they have got something new when they talk about the recall—it failed in Rome and Greece; you can point to great numbers of countries that have gone down as the result of mob theories; there is nothing new about them at all, and the reason we have been able to withstand them a little is that the foundation was laid so well by the founders of this Republic.

But there were men in that Constitutional Convention who were full of these same popular fallacies that are threatening us to-day. When they found that the Constitution was completed without them, as a last resort—and I never knew anybody that would go as far to carry a point as the professional reformer or self-appointed unifier, and they had them there—finally, when they could not appeal to the reason of these men, the members of that Constitutional Convention, the greatest gathering in the history of the world that ever assembled for a human achievement, when they saw



they could not appeal to their reason, they tried to appeal to their fear and said, "Unless you write into this Constitution some popular fallacies to please the people, the Constitution will never be adopted."

George Washington had taken no part in the discussion of the Convention up to that time but when he heard that statement he rose from the president's chair and in tones of suppressed emotion said, "It is too probable that no plan we propose will be adopted; perhaps another dreadful conflict is to be sustained. If, to please the people, we offer what we ourselves disapprove, how can we afterwards defend our work? Let us raise a standard to which the wise and honest can repair; the event is in the hands of God."

Professor Fisk has well said that those words ought to be written on the walls of every legislative hall, State and National, in this country, and ought to be carved upon the walls of every convention room where people meet to write a platform or adopt a resolution or nominate a candidate. It is illustrative of the type of reasoning that prevailed.

### Age Demands Moulders of Public Opinion Not Crowd Followers

These men were not trying to follow the crowd; they were trying to mould public opinion and give the people what they needed. *The great difficulty during recent years is that we have had crowd followers instead of statesmen who were leaders. The crowd does not want to be followed, it wants to be guided, and the great men, the men who have moulded public sentiment, frequently have had to stand in the minority for a time, but history points to these men finally as those who moulded public opinion and who stood for what they believed to be right.*

### Constitution Inspired

In closing, I want to say that I believe that that Constitution was as much inspired as parts of the Bible. You know they met for four weeks, day after day, and had not written a single word or a single sentence, and on the first morning of the fifth week, in the midst of a very heated discussion, they were about to adjourn and abandon the great purpose for which they had met—and

what a difference it would have made in the history of this country and the entire world if that had happened, but Benjamin Franklin, one of the wisest, if not the wisest, man who sat in the Convention, arose and addressing George Washington, who was in the Chair, said:

"Mr. Chairman, we have been groping for four weeks in the darkness searching for political truth, and have not found it. How is it that we have not invoked the Divine guidance of the Father of light upon our proceedings? The longer I live and the more I know the more I believe that God governs in the affairs of men, and if the sparrow cannot fall without His notice, is it probable that an Empire can rise without His assistance? 'Except the Lord build the house, they labor in vain who build it' I firmly believe this, and I also believe that without His concurring aid we shall succeed in our political building no better than the builders of Babel. I, therefore, move you that from henceforth we open our daily deliberations with morning prayer." And from that moment they began to make progress in the framing and adoption of that fame-crowned old document.

## THREE GOOD-LOOKING CALIFORNIA GARAGES

HERE are photographs of three Los Angeles garages that are good to look at. They are so inviting in exterior appearance that an owner takes pleasure in storing his car there. All are located in the apartment house district and for that reason appearance counts for much. Most of the women who reside in pretentious apartments have con-

siderable of an idea about style and dress. They want it not only in their place of abode and personal apparel, but they like to deal in the exclusive type of stores. They prefer to lunch in the place that is "different" and this sense of discrimination extends even to the garage in which their cars are kept as the proprietors of these

three have learned and turned to profit.

The Westcott service station and public garage presents a dazzling white display. It is of brick construction with plaster facing and the trimming is in ornamental tile of various colors. The mission type of architecture is used. The De Luxe garage is the quaintest in Los Angeles. It is situated directly opposite to a beautiful park and, of course, it must be maintained in keeping with the surroundings. And, by the way, this garage is operated by a woman. It is a house of many gables. Flower beds and foliage plants enhance the appearance of the Bryson garage, which is right in the midst of the ultra-fashionable apartment house district. The lawn, that is about 20 ft. deep from the curbing, is kept close cropped and immaculate. The building is of glazed gray brick. One of the rules of this establishment is that no cars shall be permitted to stand outside while work is being done on them.





# ALL IN THE DAY'S WORK

*A Motor World Man Went on a Road Trip in Illinois and Picked Up a Hatful of Ideas. Here Are Just a Few of Them. Don't They Give You Something to Think About?—Editor.*

## Machinery No Better Than the Operator

"NO piece of machinery is better than the operator who runs it," says H. E. Hall, tractor service man for the Forbes Motor Sales Co., Clinton, Ill.

"For this reason," he says, "the more thoroughly the tractor owner is instructed the better the success he will have with his tractor and the less grief he will cause the service man. My plan is this: "When I deliver a tractor I go carefully through the instruction manual with the farmer. I show him all the pictures and explain them to him. I point out where trouble is most likely to occur and I show him and tell him what he should do to avoid or correct trouble.

"Then I start the tractor and put the farmer on it to run it. I tell him to go ahead, meantime standing by myself to give any assistance or instruction that may be needed. I find the average farmer will learn more about running his machine in an hour this way than he could in a week's time watching me run it.

"There's one thing that always is sure. Neither my explanations nor those in the instruction manual, all stick consciously in the farmer's memory. It's too much to expect that they will. Nevertheless, whenever any of the common troubles happen, as they are certain to do, what I have said, or what the book has said, is very likely to spring up in the recollection of the farmer and he does the right thing.

"Why, I know how it was in my own case. I took a course of instruction up at the factory. So far as the ability to recall at will what I had seen and learned was concerned I might just as well have been the ignoramus I was when I went there. But after I got to starting tractors and things began to happen, instantly all that I had learned came back to me and I knew just what to do. Now, the farmer is just like I was.

"Therefore, I say there is one thing every tractor manufacturer ought to be

carefully sure of, and that is that he has a complete operating manual, fully illustrated and giving every last little detail about the construction and operation of his machine. It ought to tell the farmer everything he should know.

"At the present time I know of only one or two manuals that are worth the powder to blow them up. The manufacturer ought to take more interest in this."

## Special Parts Man

"THE parts and accessory business is big enough to warrant the attention of a special man, or it can be made so," says O. L. Langellier, Ford dealer at Clinton and Lincoln, Ill.

"I remember when, some few years ago, Henry Ford insisted upon our carrying a stock of repairs and accessory parts, which, for such an agency as mine, amounted to about \$1000.

"I thought I was being abused. What? Tie up my capital that way? I didn't like to do it, but I did because I had to.

"Now I am glad I did. Ford was

right. Why, now I carry a \$10,000 stock of Ford parts and accessories exclusively and don't think anything about it. Rather I'm glad I do because it has become one of the most profitable departments of my business.

"I put the parts and accessory department under the charge of a special man both here and at Lincoln, and I hold him responsible for its conduct and I insist upon his pushing it. I find I have increased my annual turnover of capital invested in that department six times, and, actually, I could run a year or two on my accessory business and never sell a car.

"It's a business by itself. The leaks in it are stopped when you have the right man to look after it and if he is energetic and pushes it it can be made very profitable.

"I used to carry accessories for all makes of cars, but now I confine myself to Ford accessories only. And I don't carry a miscellaneous lot of them either. I keep tab on my accessory business, and as soon as I find I have stocked something which is not appropriate for my trade, or which does not move readily, or on which it is impossible for me to make any money, I cut it out. The dealer who will departmentize his accessory business and give it the attention it deserves easily can develop a satisfactory and profitable business."

## Tell Him To Keep The Horses

"THIS horse theory has slowed up tractor sales a lot this spring," says O. L. Langellier, Fordson dealer at Clinton, Ill., and Lincoln, Ill.

"What do I mean by that? Why, just the notion the farmer has got into his head that he has to sell his horses before he can buy a tractor.

"The real way to look at it is the other way around, the farmer must buy a tractor before he dare sell his horses, and it is up to us dealers to educate him

to this right way of thinking. As a matter of fact, he can't do anything else. He's taking too big a chance if he does differently.

"The point of view of the average farmer is that if he can dispose of his horses then he will be in a position to buy a tractor. Now, he can't afford to look at it that way. Nearly always the time when a dealer can deliver a tractor is more or less uncertain. A good many things may happen to cause delay. The



farmer who disposes of his horses first and thinks he will immediately replace them with a tractor is taking a long chance on being disappointed. There's always work to be done and usually it's work that can't wait. Then, if he can't get a tractor immediately he's likely to be up against a serious proposition.

"Manifestly, the thing for the farmer to do is to buy his tractor. Then he can sell his horses as soon as he gets a chance and he can't make any mistake. It's part of our job as dealers to make the farmer see this. We've got to educate him."

## Keep 'Em Moving

"KEEP 'em moving."  
"That's my motto as respects service on both motor cars and tractors," says L. E. Forbes, automotive dealer at Clinton, Ill.

"It's particularly important as respects tractors. The farmer's tractor never breaks down except when he is using it and when he needs it and when time means everything to him. I aim always to have on hand a complete stock of spares and to hop to trouble the minute it is reported to me. Most tractor troubles can be fixed in the field if the service man goes all equipped to do the work. I send my man all ready.

"In case the trouble is so serious it cannot be remedied at once, as in a case of serious breakage or something like that, I intend to lend a tractor so that the farmer can keep on with his work. I am rigging up a truck right now on which I can load a tractor and take it out to the farm.

"Service is the biggest factor in the tractor business, and unless the dealer is ready and willing to assume full responsibility for service he has no business trying to sell tractors at all."

## Brands His Salesmen

"I IDENTIFY all of my salesmen," says W. C. Starr, Overland distributor at Decatur, Ill. "Every man has a car and attached to the rear of each car is a shield which proclaims him as my representative and which identifies him by number. This not only advertises me and my business but tells me which salesman is responsible for anything that may arise. In another way this is an advantage.

"My men come in to report every night. It's hard to tell when all will be in, some arriving at the garage very late at times. Suppose there's something wrong with one or more of the cars which must be fixed before they can be taken out in the morning. When the salesman comes in he leaves a shop notice that his car requires such and such attention. This goes to my night force. As the ticket bears the number of the car the men do not have to take the time to examine every car in the outfit to locate the lame one. The number on the ticket

identifies it immediately. This saves time. It's little things like this that are worth while and which minimize trouble and expense."

## Carry a Full Line of Cars

"ATTRACTIVE decorations in our showroom brought fifty lookers where we had one before," says H. H. Lanham of A. V. Brownback Co., Decatur, Ill., Oldsmobile distributor.

"When we began, a little over two years ago, we had nothing but an obscure little dump and we had some time getting started. Then we moved into a better place, where we had a showroom 40 x 60. We painted the interior white, put in good lights and other decorations—had quite the classiest showroom in town and immediately we got on the map.

"Then we built this building, with its white and glittering outside, its big windows, its corner location and all these big game heads and deep sea fishes on the walls, and, believe me, the lay-out began to attract attention and has grown to be some asset.

"Then you'll notice we carry a *full line* of Oldsmobiles on the floor. That is what every dealer ought to do—*show his whole line*.

"A man came in here the other day with his mind made up to buy an open car. But as soon as he got inside his eye was caught by that enclosed car over there and he went right over to it and examined it all over. He couldn't keep his eyes off it, yet he drove away finally with the open car he came in to buy.

"The next morning he was back here bright and early. Driving in, he said:

"Say, the wife and I laid awake most of the night last night talking the matter over. While an enclosed car costs more money than I really want to put into a car just now we decided we might just as well be good to ourselves and spend the cash. Will you take back this car I bought yesterday and let me have that one?"

"Sure," said I.

## Individual Separators

"THE day of the individual grain separator has come," says O. L. Langelier, Fordson dealer at Clinton and Lincoln, Ill., "and we dealers who have taken on the tractor see a new and profitable business opportunity.

"The trouble in the past has been that with the big separator so many farmers had to combine in the purchase of one, or they had to depend upon the thresherman who owned an outfit, that dissatisfaction arose. Farmers have never been very good on the cooperative stuff. They never could agree on who should take precedence and there was an annual quarrel about the division of expense.

"Now with the small machine ownership can be made a family affair, or so

few farmers can combine that getting along peaceably becomes easier. The farmers are coming to see that it is an advantage to be able to do their threshing just when they want it done, and as tractors become more numerous owned there will be an increase in the number of small separators commonly owned in the community.

"With my present prospects—and it still is very early in the season—I suspect I shall sell a half dozen anyway and it will be just so much extra business for me. The way to work it is to get the several members of a family to join, or just two or three close neighbors who are friends. It looks like good business to me."

## Don't Promise Too Much

"A MAN can't go any further than his reputation for service can be sustained."

It wasn't an automobile dealer who said that, but it was said about automotive equipment, so it has a meaning for every dealer who sells automotive equipment. It's worth thinking about. And thinking about hard, too.

A certain automobile dealer lost a sale the other day because he would not set the limit so far off on the service he would promise to give that his reputation would get punctured stretching so far.

A woman wanted to buy an automobile. Being a woman, she shopped. She had money, too. Somebody was bound to get that money.

She finally narrowed her choice to two cars. It came to a question of guaranty on service. One dealer, with the quality of his car in mind and his reputation at stake, refused to make any promises beyond the regular trade guaranty on his car. He knew that the reputation of neither his car nor of himself would suffer if he did that. He wouldn't take a longer chance.

A competing dealer, with the woman's money filling his eye, agreed to keep her car in running condition for one year from sale free of charge.

Being a woman, she bought of the latter dealer.

The other dealer saved his reputation but lost the sale.

The year isn't up yet and nobody knows what will happen to the first dealer.

There's a proverb about a woman scorned. But that isn't a marker to a woman who doesn't get what she thinks she ought to get in the way of service on a car.

I have only one man to purchase the automobile equipment and the same man sells it. He is thus able to study conditions and keep the whole business in his own hands.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winton, Kansas City.



# THOSE PICTURES

On the Pages That Follow Are Pictures—Lots of 'em—  
Taken by Motor World at the Hot Springs Meeting of  
the Automotive Equipment Association. Look 'em Over.  
You May Be Better Looking Than You Thought You Were.

## As a Starter Here Are Some of the Girls



C. E. Stahl and  
Mrs. C. E. Stahl,  
Connecticut Tele-  
phone and Elec-  
tric Co.

Mrs. William  
M. Webster  
Chicago.

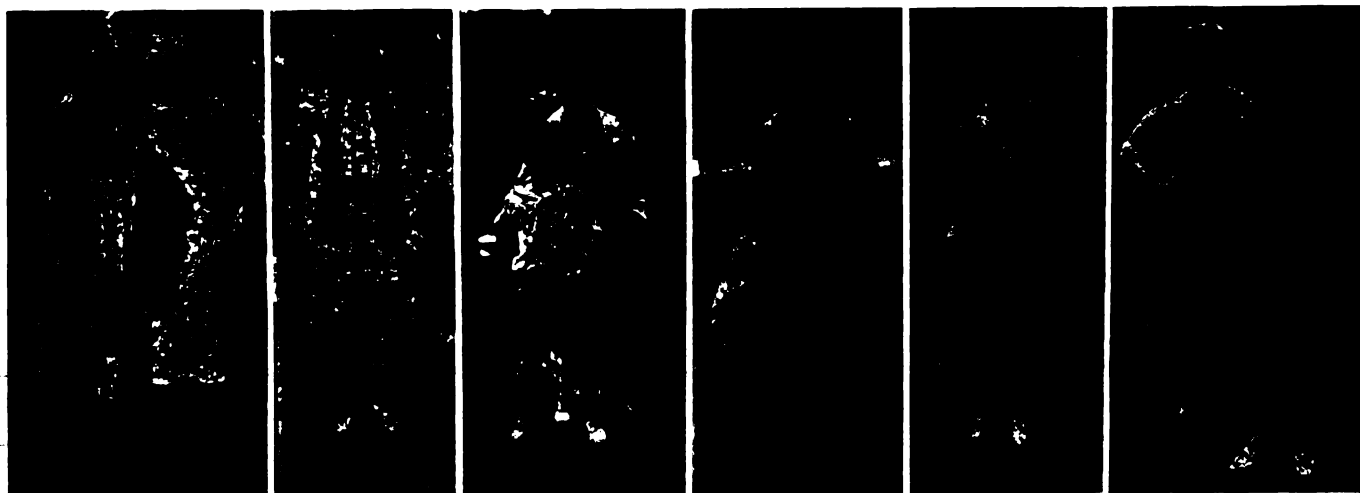
Mrs. L. H. Bel-  
lows  
Worcester, Mass.

Mrs. Wolf  
Chicago.

Mrs. John F.  
Fulton  
The F. H. S. Co.,  
Chicago.

Mrs. E. E. Sparks  
Chicago.

Mrs. R. R. En-  
gelhart  
Davenport, Iowa.



Mrs. T. M. Wil-  
liams  
Louisville, Ky.  
Mrs. Wm. McCol-  
lum  
Rahway, N. J.

Miss Irene Keegan  
Chicago.

Mrs. T. M. Brooks  
and Son, Henry T.  
Brooks, Chicago.

Mrs. Frank Chase  
Attleboro, Mass.

Miss Elizabeth  
McCoy  
McCoy Motor  
Supplies Co., San  
Francisco.

Mr. and Mrs. Mc-  
Gauley  
Beck & Corbett,  
Iron Co., St. Louis.



# Pictures That Help You Remember Hot Springs



**W. E. Laidlow**  
Dayton Wire  
Wheel Co., Day-  
ton.



**"West"**



**W. F. Parker**  
Packard Elec. Co.,  
Warren, Ohio.



**E. R. Waterman**  
Splittorf Elec-  
trical Co., New-  
ark, N. J.



**Wm. Sparks**  
Sparks Withing-  
ton Co., Jackson.



**PHILIP H. LYON**  
Of the Chanslor & Lyon Co.,  
San Francisco,  
President of the Association



**Somebody's Dog.**



**Mrs. A. J. Schwarz.**  
New York City.



**Mrs. W. W. Low**  
Chicago.



**Mrs. Otto Kauf-  
mann**  
The Challoner Co.,  
Oshkosh.



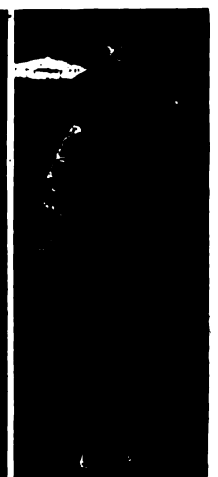
**Theo Bass and  
Miss Miriam Bass**  
National Electric  
& Auto Supply Co.,  
Peoria, Ill.



**T. B. Wildermuth**  
Harrisburg, Pa.

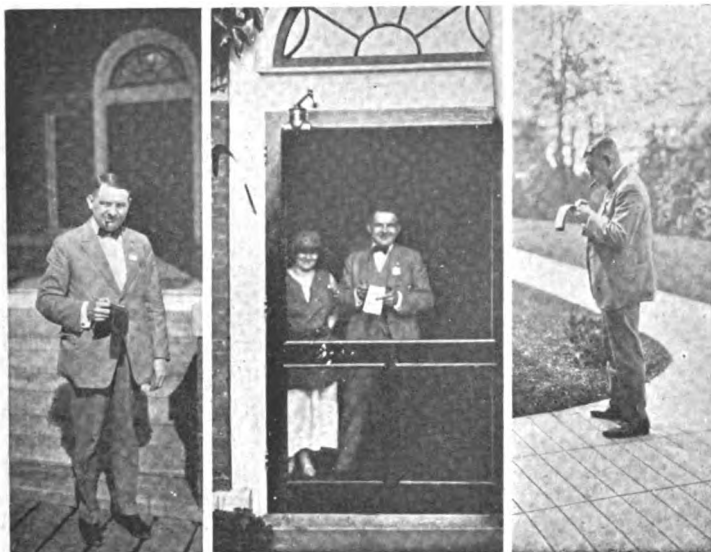


**Mrs. A. J. Picard**  
New York.



**Mrs. A. J. Riebs**  
Milwaukee.





**FRED W. KOHL**

*Of the Zinke Co., Chicago, who is the greatest little assistant photographer in the business. Here shown in three poses: 1—"There's one." 2—"Got 'er," and 3—"What's your name?"*



**WILLIAM M. WEBSTER**

*Commissioner of the Automotive Equipment Association*



**SIDNEY B. DEAN**

*Of Nicols, Dean & Gregg  
St. Paul, Former President  
of the Association*



**RAY W. SHERMAN**

*Editor of MOTOR WORLD*



**Charles B. Shanks,**  
*Manager*



**H. M. Swetland,**  
*President of the  
Class Journal Co.*



**Howard Spohn,**  
*Special Represen-  
tative*

**REPRESENTING MOTOR WORLD**



# "Bill" Low and Some of His Friends



**Mac McGauley**  
Beck & Corbitt  
Iron Co., St. Louis.



**J. E. Colley**  
Colley - Minnich  
Co., Atlanta.



**Robt W. Martland**  
California Auto-  
mobile Trade  
Assn., Oakland.



**W. S. Holmes**  
Whitcomb Le-  
compte Co., New-  
ark, N. J.



**E. C. Deardorf**  
Toledo Rubber  
Co., Toledo.



**J. C. Htpp**  
Pennsylvania  
Rubber & Supply  
Co., Cleveland.



**L. J. Fielding**  
Auto Parts Co. of  
America, Chicago.



**W. W. LOW,**  
Electric Appliance Co.,  
Chicago



**W. K. Evans**  
C. C. Blackmore,  
Dayton.



**Frank Keegan**  
Moto-Meter Co.,  
Long Island City



**J. T. Jenkins**  
**J. F. O'Brien**  
General Asbestos  
& Rubber Co.,  
Charleston, N. C.



**J. M. Adam**  
Balden Mfg. Co.,  
Chicago.



**L. T. Kauffman**  
Auto Leather Mfg.  
Co., Arlington,  
N. J.



**"Pat" Hussey**  
Cleveland, Ohio.



**Ludger Gravel**  
Ludger Gravel et  
Fils, Montreal.



**Joseph M. Bloch**  
Gibson Co., In-  
dianapolis.



**H. M. Dine**  
Dine-Dewees Co.,  
Canton, O., & Wm  
M. Webster.



**N. H. Oliver**  
Metal Specialties  
Co., Chicago.



# George Fritz and Why He Is Busy



**E. W. Reynolds**  
Automobile Supply Co., Tacoma.



**J. R. Lostro**  
Lostro Auto Sales Co., Athens, Ohio.



**G. L. Clark**  
Thos. J. Northway, Rochester, N. Y.



**C. A. Bissonette**  
Corcoran - Victor Co., Cincinnati.



**J. W. Lawhead**  
Auto Compressor Co., Wilmington, Ohio.



**GEORGE FRITZ,**  
Field Secretary of the Association



**H. J. Hopkins**  
Geller Ward & Hasner Hardware Co., St. Louis.



**Warren Walker**  
Walker Mfg. Co., Racine, Wis.



**Charles E. Faeth**  
Kansas City, Mo.  
**T. M. Brooks**  
Automobile Supply Co., Chicago.



**W. F. Doolittle**  
C. S. Mersick & Co., New Haven.



**Clarke G. Powell**  
Powell Supply Co., Omaha.



**Lost his name!**  
Who is he?



**L. W. Perkins**  
Jiffy Jack Co., Cleveland.



**W. S. Isherwood**  
Champion Ignition Co., Flint.



**W. A. White**  
Orr Iron Co., Evansville, Ind.



**H. F. Collins**  
Standard Woven Fabric Co., Chicago.



**F. J. Radloff**  
A. Nelson Mfg. Co., Chicago.



**Jas. S. Longhurst, Jr.**  
Nu Back Mfg. Co., St. Louis.



# "Standardization" Andrae and Victims



**Geo. E. La Vietes**  
Osgood Lens &  
Supply Co., New  
York.



**B. R. Benton**  
Benton Bailey  
Co., Richmond,  
Va.



**D. D. Duncan**  
J. H. Haney &  
Co., Hastings,  
Neb.



**E. N. Stern**  
C. & D. Auto Sup-  
ply Co., Cincin-  
nati.



**W. L. Moncur**  
Cutten & Foster  
Co., Toronto.



**F. T. ANDRAE**  
Julius Andrae &  
Sons Co., Milwau-  
kee.



**M. D. Campbell**  
Perkins Campbell  
Co., Cincinnati.



**C. F. York**  
York Supply Co.,  
Greenville, Ohio.



**H. M. Behan**  
Chicago Auto Eq.  
Co.



**Earl Allmon**  
Missouri Auto  
Specialty Co., St.  
Louis.



**O. P. Hand**  
Burd High Com-  
pression Ring Co.,  
Rockford, Ill.



**A. D. Williams**  
Silver Co., Bethle-  
hem.



**John W. Fulton**  
The F. H. S. Co.,  
Chicago.



**Nathaniel Leverone**  
Hill Pump  
Valve Co., Chi-  
cago.



**A. R. Mosler**  
A. R. Mosler &  
Co., Mt. Vernon,  
N. Y.



**R. K. Cody**  
W. E. Cody Co.,  
Columbus, Ga.



**Fred V. McGraw**  
Bailey Drake Co.,  
Chicago.



**W. D. Alexander, Jr.**  
Alexander Sewald  
Co., Atlanta.



# Pretty Good Looking Crowd! What?



*Fred W. Kohl and Ray W. Sherman*



*T. B. Wildemuth*



*Frank W. Roche  
Automobile Topics  
New York.*



*W. R. Hughes & F. X. Berrodin  
Martin Murray Berrodin Rubber Roper Harris &  
Corcoran Mfg. Co., Philadelphia. D u n h a m  
Cincinnati. Co., Greenville, Texas.*



*Mrs. Ralph Miller  
Springfield, Ohio.*



*Mrs. W. E. Wisler  
Des Moines.*



*And some wore  
no hats.*



*Mrs. L. P. Zinke  
Chicago.*



*Mrs. L. B. Everhart  
Challoner C o . .  
Oshkosh.*



*Mrs. A. R. Johnson  
Chicago, and  
Mrs. D. S. Campbell, Chicago.*



*Mrs. A. E. Gross  
Philip Gross Hdw.  
Co., Milwaukee.*



*L. M. Lloyd, Edw.  
A. Cassidy, Greg-  
ory Flynn, E. A.  
Cassidy Co., New  
York.*



*W. H. Banfield  
Sons, Toronto.*



*"Happy" Rhodes  
Cooper Rubber  
Chicago.*



*H. H. Brenner  
Co., Cincinnati.*



*C. A. Taylor  
Van Briggie Mo-  
tor Device Co., In-  
dianapolis.*



*F. J. Erdhaus,  
C. & D., Cincin-  
nati.  
H. R. Carlisle, At-  
water Kent.*



# 22 Rather Serious Conventioners



**H. E. Patterson**  
Warner Patterson  
Co., Chicago.



**E. J. Hess**  
Equipment Co.,  
Kansas City.



**A. J. Riels**  
Milwaukee.



**Wm. Von Elm**  
E. A. Laboratories,  
Brooklyn, and  
J. H. Rose, S.  
Smith & Sons,  
London, Eng.



**E. C. Kennedy**  
Jiffy Jack Co.,  
Cleveland.



**E. E. Arnold**  
H. W. Johns-Man-  
ville Co., New  
York.



**J. W. Perry**  
H. W. Johns-Man-  
ville Co., New  
York.



**John Stockfisch**  
Veedol Oils, New  
York.



**C. L. Stebbins**  
Double Fabric  
Tire Co., Auburn,  
Ind.



**F. J. Forbes**  
Raybestos Co.,  
Bridgeport.



**J. B. McMullin**  
Western Mfg. Co.,  
Oskaloosa.



**H. F. Kircher**  
Peoria Overhead  
Washer Co., Pe-  
oria.



**L. A. Safford**  
McQuay - Norris  
Mfg. Co., St.  
Louis.



**S. A. Winsor**  
F. H. & S. Co.,  
Chicago.



**C. L. Wheeler**  
Salt Lake Hard-  
ware Co., Salt  
Lake City.



**James H. Wilker-  
son**  
A. E. A. Attorney,  
Racine.



**"Badger Jack"  
Cooper**  
Walker Mfg. Co.,  
Racine.



**Osey Austin**  
J. P. Gordon Co.,  
Columbus.



**R. W. Gilchrist**  
Bailey Drake Co.,  
Chicago.



**N. F. Ozburn**  
Ozburn - Abston  
Co., Memphis.



**Leland H. Craig**  
Walden - Worces-  
ter, Inc., Worces-  
ter, Mass.



# Who's the Best Looking Man?



**A. J. Hopkins**  
Canadian Fairbanks Morse Co., Montreal.



**J. A. Buhr**  
F. H. Lawson Co., Cincinnati.



**A. J. Schwartz**  
Champion Ignition Co., Flint.



**B. L. Clements**  
Ben Louis, Jr., Borderland Auto Supply Co., El Paso.



**Floyd A. Knight**  
J. B. Mfg. Co., Pittsfield, Mass.



**Wm. F. Edwards**  
Globe Machine & Stamping Co., Cleveland.



**Geo. L. Fischer**  
J. H. McCullough & Son, Philadelphia.



**G. P. Rogers**  
Pyrene Mfg. Co., New York.



**R. F. Graham**  
Graham-Selzer Co., Peoria.



**J. W. Fischer**  
A. R. Mosler & Co., Mt. Vernon, N. Y.



**John A. Kohl**  
The Zinke Co., Chicago.



Guess who he is?



**C. M. Bunnell**  
General Electric Co., Harrison, N. J.



**E. B. Collins**  
E. B. Collins Co., Danville, Ill.



**"Dick" Picard**  
A. J. Picard & Co., New York.



**L. R. Whittemore**  
Whittemore - Sim Co., New York.



**Bert Ludy**  
Clucker & Hizon Co., New York.



**H. B. Ramey**  
Am. Ever Ready Works, Long Island City.



**H. I. McConnell**  
H. C. Roberts Elec. Co., Philadelphia.



**F. S. Durham**  
Bonney Vise & Tool Co., Allentown, Pa.



**A. C. Delson**  
Victor Mfg. & Gasket Co., Chicago.



# You Can't Keep the Men Away



Miss Naomi Everhart  
and Fred W. Kohl



Mrs. Robt. A. Stranahan and  
Miss Stranahan  
Toledo.



Mrs. E. J. Hess  
Kansas City, and  
Mrs. R. W. Gilchrist,  
Chicago.



Miss Julia Braasch  
Automotive Equip.  
Assn.



George Briggs  
Sinclair Oil Co.,  
Chicago, and Mrs. Robt. A.  
Stranahan



Mrs. W. W. Low  
Chicago.



Mrs. Fred Campbell  
St. Louis.



Mrs. C. Albracht  
K. W. Ignition  
Co., Cleveland.



Mr. and Mrs.  
Frank Keegan  
Moto-Meter Co.,  
Long Island City.



Mr. & Mrs. E. C.  
Guthard  
Northwestern Auto  
Supply Co., Billings,  
Mont.



Mrs. B. Müller  
Economy Auto  
Supply Co., Newark,  
N. J.



Miss Olga Shields  
Automotive Equip-  
ment Assn.



Mrs. W. S. Isherwood  
Flint.



Mr. & Mrs. E. L.  
Worcester  
The Fulton Co.,  
Milwaukee.



Mr. and Mrs. H.  
A. Jacobsen  
Albertson, & Co.,  
Sioux City.



Mr. and Mrs. John  
McClure  
Minneapolis Iron Store  
Co.



Mrs. B. J. Grigsby  
Anderson Electric  
Co., Parkridge,  
Ill.



Mrs. W. A. Allen  
New York.  
Mrs. F. X. Berro-  
din, Philadelphia.



# 10 White Pairs—13 Dark Pairs



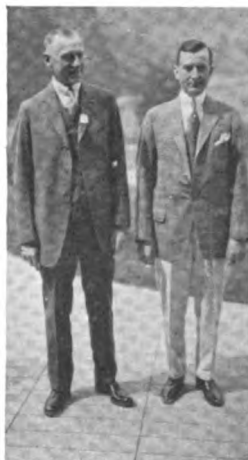
**F. C. Linscott**  
Linscott Auto  
Supply Co., Bos-  
ton.



**E. Horace Haw-  
thorne**  
Hawthorne Co.,  
Bridgeport.



**C. R. Dent**  
Tidewater Oil Co.,  
New York.



**W. J. Heineke and  
Dean L. Moberley**  
L. P. Hallady Co.,  
Streator, Ill.



**L. H. Bellows**  
Walden - Worces-  
ter, Inc., Worces-  
ter, Mass.



**Robert Weinstock**  
Weinstock Nich-  
ols Co., San Fran-  
cisco.



**L. A. Staff**  
Staff Bros. Co.,  
New York.



**H. M. Tucker**  
J. P. Gordon Co.,  
Columbus.



**E. V. Leimbach**  
Edward V. Hart-  
ford, Chicago.



**Richard Crooker**  
Allen Auto Spe-  
cialty Co., New  
York.



**E. D. Knowles**  
Thermoid Rubber  
Co.



**R. W. Backus**  
Champion Ignition  
Co., Flint.



**C. F. Hodgson**  
Weaver Mfg. Co.,  
Springfield, Ill.



**C. A. Anderson**  
Western Motor  
Supply Co., Min-  
neapolis.



**H. H. Wright**  
Wright Mfg. Co.,  
Lisbon, Ohio.



**J. C. Donnelly**  
Standard Woven  
Fabric Co., Wal-  
pole, Mass.



**Harry Smith**  
Pennsylvania  
Rubber & Supply  
Co., Cleveland.



**F. Kengeter**  
Royal Vehicle  
Corp., New York.



**W. R. Wilmot**  
Manager Minne-  
apolis Automobile  
Trade Assn., Min-  
neapolis.



**M. L. Harlem**  
Judd & Leland  
Mfg. Co., Clifton  
Springs, N. Y.  
F. Ham. Suter



**Harry Prescott**



# Not an Old Man in the Bunch!



**Jas. S. Remick**  
Jas. S. Remick  
Co., Sacramento.



**A. W. Friend**  
Federal Miniature  
Lamp Co., Chicago.



**George Brunner**  
Brunner Mfg. Co.,  
Utica.



**W. W. Earley**  
Corcoran Victor  
Co., Cincinnati.



**Lee Freudenthal**  
Champion Ignition  
Co., Flint.



**Franklyn Mayo**  
Mayo-Skinner  
Mfg. Co., Chicago.



**Edward A. Cas-  
sidy**  
New York.



**Wm. M. Weber**  
Chicago Automobile  
Supply Co.,  
Chicago.



**Chas. H. Hath-  
away**  
Badger Mfg. Cor-  
poration, Milwau-  
kee.



**"Gus" Will**  
Minneapolis Auto-  
mobile Trade As-  
soc., Minneapolis.



**R. W. Smith**  
National Stand-  
ard Co., Niles,  
Mich.



**Conrad E. Niehoff**  
Paul G. Niehoff &  
Co., Inc., Chicago.



**E. W. Scott**  
Hastings & Ander-  
son, Chicago.



**F. C. West**  
F. C. West Corp.,  
Chicago.



**E. V. Hennecke**  
Moto-Meter Co.,  
Long Island City.



**F. S. Southwick**  
Southwick Auto  
Supply Co., To-  
peka.



**George Woelfel,  
Jr.**  
The Zinke Co.,  
Chicago.



**E. J. Thalman**  
Snap-Lok Window  
Co., Cleveland.



**J. K. Gilchrist**  
Bailey Drake Co.,  
Chicago.



**"Pat" Malone**  
Shaler Co., Wau-  
pau, Wis.



**A. E. Gross**  
Philip Gross Hdw.  
Co., Milwaukee.



# See 'Em Smile! Must all be Jobbers!



**J. D. McGauley**  
Milmack Co.,  
Philadelphia.



**G. A. Lyon**



**T. H. Carruthers**  
Corcoran - Victor  
Co., Cincinnati.



**D. S. Campbell**  
and  
**A. R. Johnson**  
Chicago.



**H. Kemmel**  
Perkins Cambell  
Co., Chicago.



**A. V. Comings**  
Chilton Co., Phil-  
adelphia.



**J. E. Messenger**  
Auto Metal Parts  
Co., Des Moines.



**G. Norman**  
Baughman  
Tampa, Fla.



**W. M. Wheeler**  
American Chain  
Co., Bridgeport,  
Conn.



**J. Wadsworth**  
Staff  
Staff & Eckhouse,  
Chicago, Ill.



**Geo. S. Everhart**  
The Challoner Co.,  
Oshkosh.



**S. A. Fulton**  
The Fulton Co.,  
Milwaukee.



**Christian S. An-  
dersen**  
Manager Home-Parts Co., Web-  
stead Hotel, Hotster, Mass.  
Springs, Va.



**Wm. R. Petze**  
Prescott Auto  
Parts Co., Web-  
stead Hotel, Hotster, Mass.  
Springs, Va.



**B. M. Asch**  
Asch & Co., New  
York.



**Iran F. Goodrich**  
Goodrich Lenhart  
Mfg. Co., Phila-  
delphia.



**B. Miller**  
Economy Auto  
Supply Co., New-  
ark, N. J.



**Frank Sparks**  
American Chain  
Co., Chicago.



**W. J. Seroy**  
Stewart Mfg. Co.,  
Oakland.



**Garland Ames**  
Black & Decker  
Mfg. Co., Balti-  
more.



**E. R. Schultz**  
Auto Sup-  
ply Co., Stou-  
r City.



# When They're Home They All Work



"Ben" Stoll  
Johnson Tire &  
Auto Co., Mont-  
gomery.



I. B. Cary  
Corning Glass  
Works, Corning,  
N. Y.



B. R. Parrott  
Inland Machine  
Works, St. Louis.



Cecil Dixon  
Hyslop Bros., To-  
ronto.



O. J. Bauer  
Metal Stamping  
Co., Long Island  
City.



J. B. Marian  
John Van Ben-  
schoten, Pough-  
keepsie.



D. G. Caywood  
Black & Decker  
Mfg. Co., Balti-  
more.



F. M. Butts  
Butts & Ordway  
Co., Boston.



Geo. Rinkenberger  
Washington Auto  
Supply Co., Wash-  
ington, Ill.



J. H. Liston  
Hippee States  
Auto Supply Co.,  
Des Moines.



F. R. Hall  
Northwestern  
Chemical Co., Ma-  
rietta, Ohio.



George Colton  
Motor Hdw. &  
Equipment Co.,  
San Diego.



"Ned" Vestal  
Reinhardt Bros.,  
Minneapolis.



Warren Shay  
Champion Spark  
Plug Co., Toledo.



Wm. F. Carroll  
Utica Cycle & Sup-  
ply Co., Utica.



"Si" Falkenburg  
Voorhees Rubber  
Mfg. Co., Jersey  
City.



E. D. Waite  
Waite Supply Co.,  
Providence.



Ely Bramson  
Pennsylvania Pis-  
ton Ring Co.,  
Cleveland.



M. L. Harlem  
Judd & Leland  
Mfg. Co., Clifton  
Springs, N. Y.



F. J. Murray  
Post & Lester Co.,  
Boston.



S. I. Rose  
Marvel Accessor-  
ies Co., Cleveland.



# Too Bad We're Not All Handsome



Wm. A. Allen  
Allen Auto Specialty Co., New York.



Arthur L. Small  
Advance Packing & Supply Co., Chicago.



Thos. Ford Wilson  
Apco Mfg. Co., Providence.



Walter P. Coghlan  
Klaxon Co., Newark, N. J.



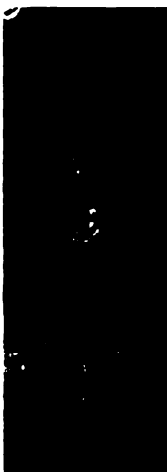
Henry McCoy  
McCoy Motor Supply Co., San Francisco.



L. A. Vanderloot  
Durkee - Atwood Co., Minneapolis.



Otto Kaufmann  
The Challoner Co., Oshkosh, Wis.



A. R. Johnson  
Jefferson Elec. Mfg. Co., Chicago.



Harry E. Smith  
Walker Mfg. Co., Racine.



C. B. Clark  
Champion Spark Plug Co., Toledo.



J. W. Pratt  
G. Norman Baughman Co., Jacksonville, Fla.



E. A. Hawthorne  
Hawthorne Co., Bridgeport.



M. Whitelaw  
Lowe Motor Supplies Co., New York.



Willard Walker  
Walker Mfg. Co., Racine.



L. W. Golder  
Metal Spec. Mfg. Co., Chicago.



Stanley Roberts  
Roberts Toledo Auto Co., Toledo.  
L. P. Zinke  
Chicago.



Ira Saks  
Pennsylvania Piston Ring Co., Cleveland.



"Pat" Malone  
Shaler Co., Wau-pun, Wis.



Jos. G. Fitzsimons  
Carlinas Auto Supply Co., Charlotte, N. C.



G. F. Discher  
Gemco Mfg. Co., Milwaukee.



R. G. Stough  
Glueck & Htson Co., New York.



# And Here Is the Rest of the Bunch



**H. L. Parmenter**  
Genl. Asbestos &  
Rubber Co., Chi-  
cago.



**W. C. Jones**  
American Ever  
Ready Works,  
Chicago.



**C. W. Hauck**  
Perkins Campbell  
Co., Cincinnati.



**Another Unknown** **John F. Shuford**  
Shurnuff Mfg. Co.,  
St. Louis.



**M. R. MacPhail**  
Komo Supply Co.,  
Charlotte, N. C.



**J. T. Greenice**  
Imperial Brass  
Co., Chicago.



**"Jim" Moudtroup**  
F. C. West Corp.,  
Chicago.



**L. J. Stern, X**  
Laboratories, Bos-  
ton.



**A. S. Clucker**  
Clucker & Hixson  
Co., New York.



**Miss Elizabeth  
Tuttle**  
Providence, R. I.,  
and  
**Miss Laurine Ol-  
iver**  
Chicago.



**L. M. Hirsig**  
Bert Cochran.



**Fordyce B. Cas-  
well**  
Champion Spark  
Plug Co., Toledo.



**Al. H. Bailey**  
Bailey & Co., At-  
lanta.



**W. H. Banfield**  
W. H. Banfield &  
Sons, Toronto.



**J. Ernest Millen**  
John Millen &  
Son, Ltd., Montre-  
al.



**Fred Campbell**  
Fred Campbell  
Auto Supply Co.,  
St. Louis.



# Make Tractor Care a Habit

## THE LAST OF FOUR ARTICLES

*On Tractor Selling, by C. L. Butler,  
president of Butler-Veitch, Inc., Oak-  
land, Cal., distributor of Fageol prod-  
ucts.*

*By C. L. Butler*

### Why This Story Was Written

**EDITOR** Motor World: We have followed with interest the three articles by Clyde Jennings: "Why the Man Who Is Going to Sell Tractors Should Know Them," "Why the Man Who Is Selling Tractors Should Know Them," and "Why the Man Who Has Sold Tractors Should Know Them."

We know every man who is selling farm tractors will benefit by reading these articles. We have, and we are making it a point to see that this series of stories is read by each of our dealers.

However, no matter how well informed or how capable the dealer may be, the greatest problem is still to

pass on a portion of his information to the purchaser. We have found that practically all of recent tractor troubles can be traced to lack of tractor education on the part of the user. The dealer may be directly responsible for this, but in an effort to aid him in this educational work, we have prepared the enclosed articles.

We believe they may help other dealers as they have helped ours, and with this in view are submitting them to Motor World with the hope that they may be of some use in the near future. Very truly, Butler-Veitch, Oakland, Cal., Lloyd Veitch.

**D**O as well by your tractor as you do by your horses and you will reduce your costs per acre. Tractors—large and small—can be operated cheaper than horses, but not on neglect. It takes time to care for a tractor, but only a fraction of the time spent on horses. Why not be fair and admit it? The fact that the time spent on horses is an old familiar job—"chores" in fact—does not make it shorter. Get the same habit with your tractor and you will be ahead on sleep.

#### Protect Your Tractor from Exposure

Horses aren't left hitched to the plow all night. Why then the tractor? Don't try to get by with saying that it does the tractor no harm. There is no tractor built that will last as long in the weather as it will under cover. Nor is there an ignition system that won't be injured by exposure to a tule fog—nor a radiator to heavy frost. Bring your tractor home every night—or at least give it a canvas cover. Remember that part of this job of getting lower costs on your farm operations is up to the farmer. The manufacturer can't do it all. A little time will save a lot of money.

Stop and figure how much time is spent taking care of horses. Watering, feeding, bedding, currying, cleaning out the barn, harnessing—will twenty minutes a horse do it? That's two hours a day for a six horse team. It takes at least as long to get horses from the barn to the field as it does a tractor. Generally the horses have to come back at noon, besides. Spend as much time intelligently on your tractor each day as you do on your horses and it will always

be ready and able to work. Before you leave it at night get it ready to start in the morning. Fill the crankcase with oil and your tank with fuel. If it is going to freeze during the night, drain your radiator and screw the drain plug back in.

In the morning fill it with warm water so that it will start easy. Always start on gasoline and run on it until your motor gets warm. Heat the manifold, warm the spark plugs and the carbureter if the morning is real cold. All these things can be done in half an hour once you get the habit—make it a "chore." In the warm weather a lot of these things are not necessary.

Spend another half hour, if you think it necessary, tightening up nuts and turning down grease cups and you still have gained an hour on the time you would spend on horses. Furthermore, unless you have pasture your horses are there every day in the year—summer and winter. When the season's work is done your tractor, after being thoroughly overhauled and properly housed, can be forgotten till next year's work begins. Those horses are a responsibility you must meet. They must be fed and cared for every day. You can't go to the city for the holidays or East on business unless you pay someone else to look after your horses.

Give the devil his due. You will lose less time with your tractor than you spend on your horses. Suppose you do have a breakdown? Suppose the agent is slow getting you new parts? (And maybe it is his fault and maybe it is the express company's.) Grant all these things. You can still catch up to your work. In a pinch the operator can drive his tractor sixteen hours a day, or you

can work two shifts and use the machine the entire twenty-four hours. Unlike horses a tractor does not need rest. Like them, though, it does need care. And the better the care the less the delay. A careful, well informed tractor man can take any good machine and work it every day in the season. In an eleven hour average day he can easily keep his tractor working in the field ten hours. One hour for care of the tractor—ten hours working it in the field. There is a tendency for the farmer to feel that he is getting a little bit out of the work class when he buys his tractor. Provided he knows his work he can truly work four hours to accomplish the same results, but he still must work.

#### Don't Be Like a Boche

When a man buys a horse and snags it he blames himself. When he buys a tractor and "snags" it he blames the agent who sold it to him. This is largely a matter of convenience. Regardless of where the fault lies, there stands the tractor agent with his future dependent on the good will of his users. Being both conscientious and keen, he does all in his power to satisfy the owners. Far be it from me to advocate a change of heart for the tractor dealer who is really serving his owners. But the greatest service that can be done the farmer is to teach him to serve himself. The mollycoddle who is born in luxury and raised on a fond parent's apron string seldom accomplishes much. The same goes for the farmer who does not learn to care for his own tractor.

When quitting time comes don't desert your tractor like a Boche leaving a trench.



# SHOOTING TROUBLES

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Ford Lights From a Battery

Editor Motor World: 1—Can you furnish a wiring diagram for head and tail lamps for a Ford, the current to be taken from a 6-volt storage battery without generator? Please give the voltage, candlepower and amperes for each lamp with double contact and the necessary grounding.

2—I would also like a diagram of wiring for two headlamps, one tail lamp and one dash lamp, the current to be taken from a 6-volt storage battery.

3—Could an extra wire be attached to the storage battery terminal for the side and tail lamps with an extra switch in connection with the headlamps already wired through the regular switch and have both sets of wiring attached to the one battery terminal?

4—Does a single-contact tail lamp have to be grounded when connected to the regular switch of a Ford car, the current being taken from the magneto using an 18-volt bulb? What is the best candlepower to use?

5—How many dry cells would be equal to a 6-volt storage battery?

6—What would be your advice as to lighting a tail lamp and two side lamps equipped with  $\frac{3}{4}$ -volt 2 c.p. lamps using .84 amperes?—Delbert Hunter, Rossie, N. Y.

Answer—1—The wiring for head and tail lamps using the current from a 6-volt storage battery is shown in Fig. 1. Only one switch is used and this lights both head and tail lamps at one operation. Either single or double contact bulbs may be used. If the single contact bulbs are used, it is not necessary to ground anything as the grounding is automatically taken care of through the base. In the case of the double contact, the other wire would have to be separately grounded in each case. The voltage and candlepower of each of the bulbs is given, but it is a little difficult to give the exact amperage that each lamp would consume as this differs in various makes of lamps. Here is an approximate consumption table for different candlepowers at 6 volts:

Candlepower	Amperes
6	.75
12	1.5
18	2.2
21	2.5
24	3.
36	4.

Special 9-volt 21 c.p. lamps intended to be wired two in series with the Ford magneto consume about 2 amperes each.

2—The wiring diagram for two headlamps, tail lamp and dash lamp is shown in part in Fig. 2. It is only necessary to change the diagram as is shown in Fig. 1 and cut into the tail-lamp line at some point with the dash lamp. The dash and tail lamp are then in series, each being 3 volts and an additional feature is that the dash lamp acts as a tell-tale to notify the driver when the tail lamp is out, because one lamp will go out when the other is out. This will not affect the headlamps.

3—Yes.

4—A single contact lamp does not have to be grounded. The best candlepower to use depends on how much light you want on the road. Either 16 or 21 c.p. should be satisfactory.

5—Three dry cells connected in series will give a voltage approximately the same as a 6-volt storage battery.

6—A plan that has worked successfully is shown in Fig. 3.

## Current Consumed by a Starter

Editor Motor World: Would be pleased to know if it would be possible for me to obtain a list of the proper starting amperage that an automobile draws at the time the starter is pressed in.—Daniel L. Kenslea Co., 68 Main Street, Watertown, Mass.

Answer—It would be absolutely impossible to furnish any such table that would be in the least degree reliable, because the amperage used by the starting motor, is directly dependent upon how hard the engine is to turn over. In other words, an engine with good compression, good piston rings, tight valves, tight bearings, etc., may consume 150 amperes, while the very same engine, a few months later, if the valves are leaky, the bearings loose, and the compression poor, may take only 60 to 70 amperes.

A difference in oil, both as to grade and as to thickness in summer and winter, will make a great deal of difference, amounting to perhaps 50 or 75 per cent in the consumption of current.

We should say that the amperage consumed by various cars on the market varies anywhere from 50 to 250 or 300 amperes, this being the maximum range in both directions.—Editor.

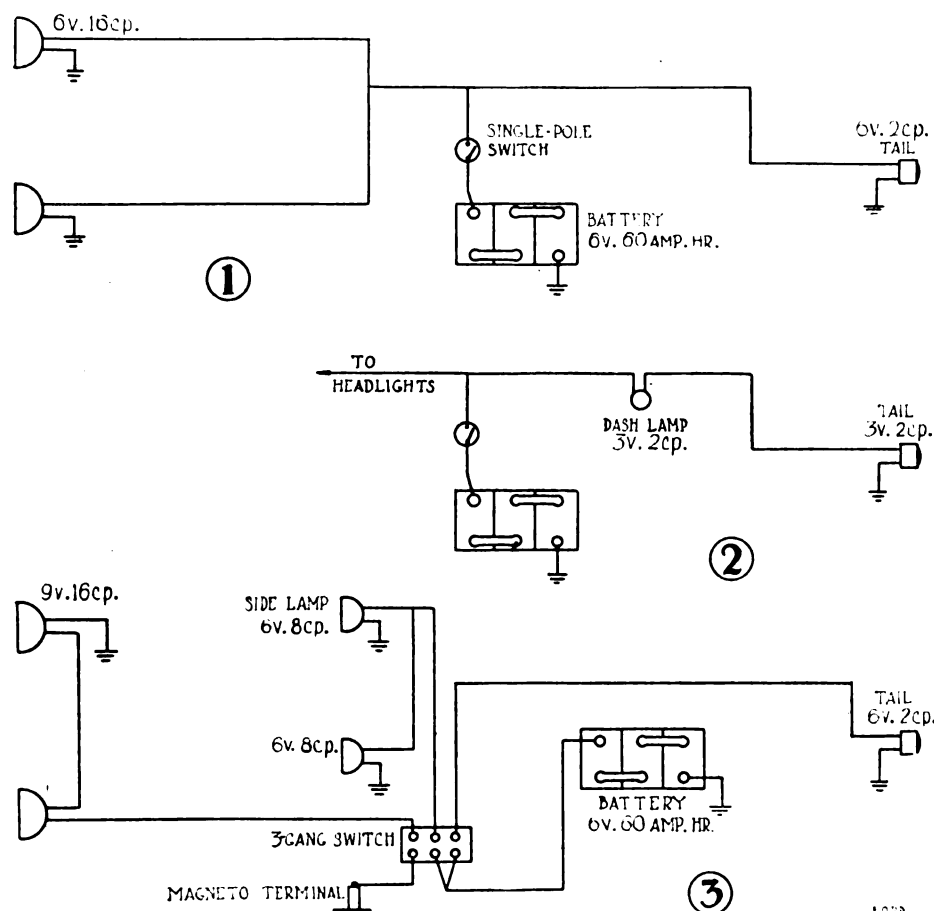


Fig. 1 shows connection of three lights to storage battery. Fig. 2 shows a dash lamp in series with the tail lamp. Fig. 3 shows headlamps operated by magneto, side and tail by battery



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

### Modern Two-Story Garage

**Character of business**—Storage, vulcanizing, tires, accessories and service by automobile owners' company. **Details wanted**—Two-story building on lot 100 x 140 ft., shop on second floor, vulcanizing department, large storage space, one or two electric elevators, advisability of acetylene welding plant.

**Name**—Oklahoma and Arizona Development Co., Blackwell, Okla.

**Answer**—In fulfilling your request for a plan we were doubtful as to whether you desired a showroom but finally decided that the chances were good that you did, and therefore one was included.

We should advise the use of an inclined driveway or ramp instead of elevators, since the former fits into the general layout very nicely. A ramp is cheaper than an elevator, figuring its

**MOTOR WORLD** is glad to receive and answer inquiries for garage plans, but in order that there may be as little delay as possible in submitting the plans desired it is imperative that the following information be given:

Size of plot, with rough sketch showing shape and its relation to adjoining plots; name and number of departments operated; number of cars to be shown in salesroom; number of cars in garage; any other pertinent details.

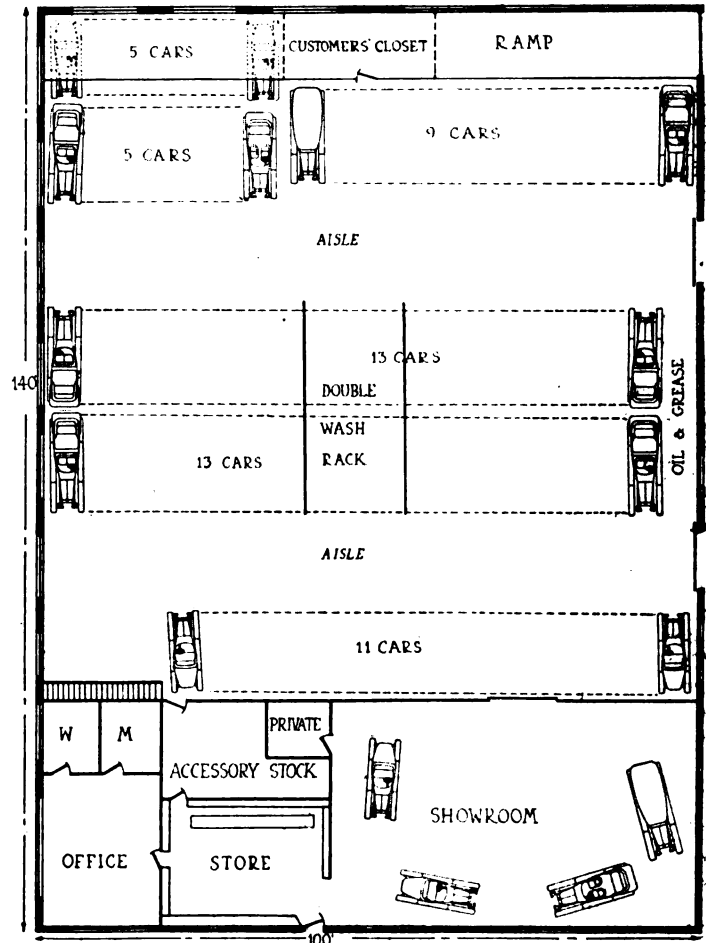
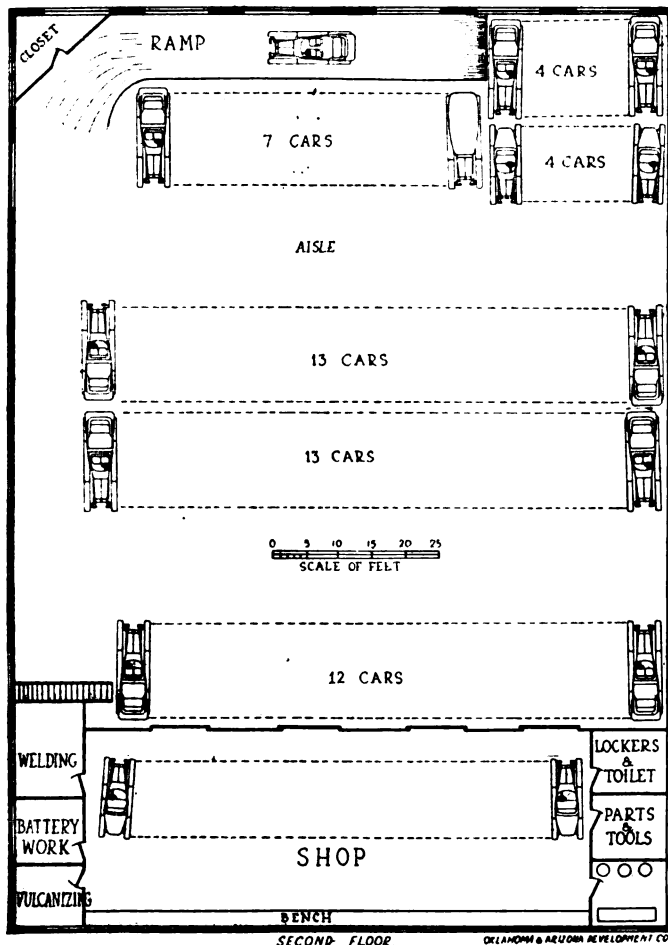
cost as the cost of the space it takes up and taking the cost of the elevator as

the total charges, including interest, depreciation, maintenance, insurance and rental of space occupied, etc.

In the particular layout we have selected, if you have practically all cars fronting on aisles, as shown on the plan herewith, then you will find that you can store just about as many cars using a ramp as if you used an elevator. However, if you prefer to place two rows of cars on one side of the aisle at points on both floors, then by eliminating the ramp you can store about 20 cars additional, thus involving one row the full width. It should be explained that this latter method does not offer any great disadvantages.

One elevator is sufficient for this building, in case you prefer it.

On the second floor the last two cars in the middle rows should be ones which are always very late to come in, since with their presence the adjacent passageway is rather cramped.



Two-story building, with shop on the second floor, designed for Oklahoma & Arizona Development Co.



Insofar as possible the cars adjacent to the shop should be ones which are usually out all day. This will allow a car to be run directly into any point of the shop, sliding doors being used so that maneuvering of the car for position is eliminated.

We have not only provided welding and vulcanizing rooms but also an electrical room. Both battery charging and electrical repairs can be done here. Yes, we advise you to have a welding outfit.

### One-Story Concrete Garage

*Character of business—Sales, service, storage.*

*Details wanted—Building 50 x 140 ft., one-story concrete, corner lot, plate-glass front.*

*Name—The Motor Mart, Bainsville, Mont.*

**Answer—**You did not say whether, in addition to a garage and shop, you wanted a showroom or an accessory store, but from the printing on your letterhead we are quite sure that you sell cars as well as accessories, and therefore you will undoubtedly want rooms for both these departments, so that you can conduct these branches of your business with full efficiency. Furthermore your desire for a plate glass front argues that it is to be used for store purposes. We strongly urge you therefore to adopt our plan which provides for a modest showroom and accessory store; however, if you feel that you do not want these features we shall be glad to draw a plan for you without them.

You will note that the plan is very compactly arranged with showroom and adjacent departments occupying a strip across the front, the shop on a strip across the rear and four rows of cars facing on two aisles—a total of twenty-eight. It is suggested that in placing these cars that as far as possible short cars be segregated on one aisle and long cars on the other aisle, thus making for more aisle room.

Entrance to the shop is through a series of sliding doors, the purpose of these doors being to allow entrance to any part of the shop directly, without any manoeuvring. The cars stored directly in front of the doors should be ones which are usually out in the daytime.

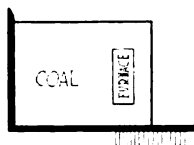
The accessory store and showroom are so laid out that they can be attended to by one man if necessary. At the same time they are sufficiently separated so that one will not detract from the other in any way.

There is a broad accessory display window at the front, and it should be dressed once a week. Watch Motor World for suggestions regarding dressing windows.

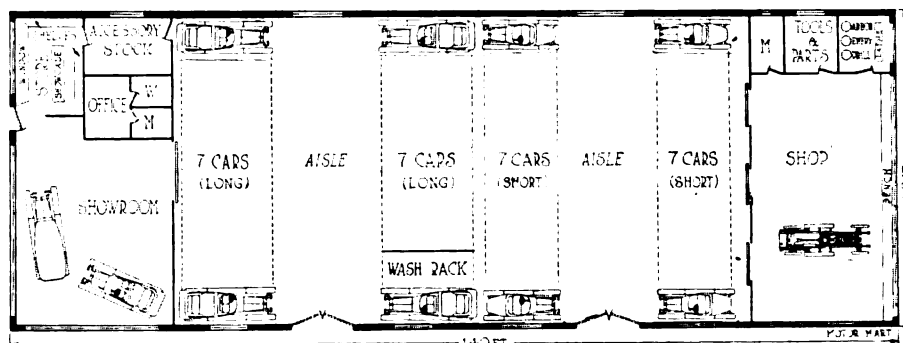
Shelves cover two sides of the room and there is a single long showcase.

The accessory stock room is not only for surplus stock, but also to house accessories and supplies which would be too bulky or unsightly if placed in the store.

If you are skeptical regarding the necessity of a showroom and accessory



*This design for the Motor Mart includes a showroom and accessory store that can be attended to by one man if necessary. There is a broad display window*



store in a town of your size please write us and we will be glad to go into the matter more fully.

### Two Floors 64 x 88 Ft.

*Character of business—Garage.*

*Details wanted—Lot 64 x 88 ft., two floors, repairshop on second floor.*

*Name—Otto Schwinck Garage, West Point, Neb.*

**Answer—**You did not state whether you wanted a showroom and accessory store or not, nor did you say whether the plot is on a corner or not. We assumed that it was not on a corner. Nevertheless the plan we are sending you is quite suitable for a corner location.

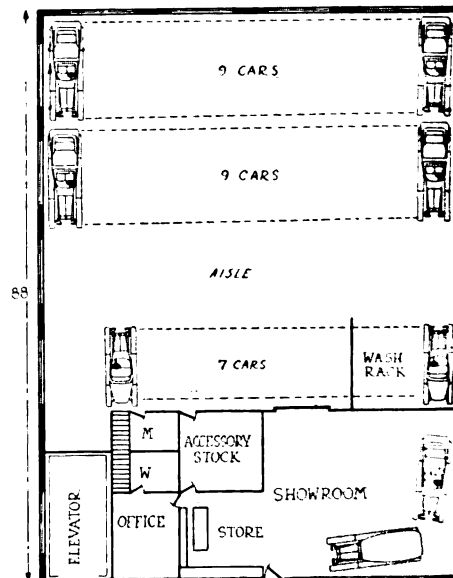
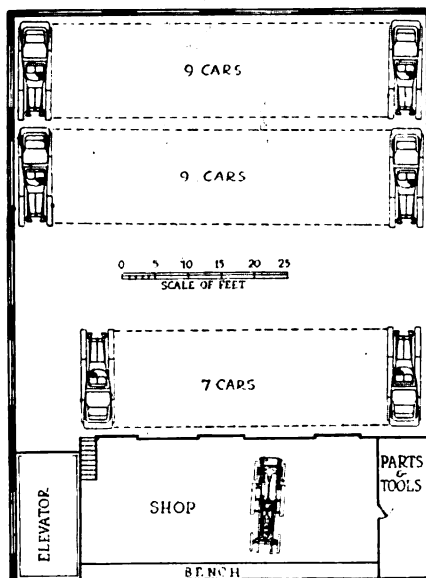
We included an accessory store and showroom in your layout because we believe that you deal in cars and sell accessories and that therefore you will want the necessary store space to carry on these departments of your business to best advantage. A store is recognized as a necessity to the successful handling of goods in all lines. Even in a small town such as yours, the butcher, the

baker, the grocer and every merchant finds it necessary to have a store in order to do business. Certainly a store is just as much of a necessity for a man selling automobiles and accessories. You are planning a new building. In a sense this new structure will stand as an important milestone on your road to success, and you don't want to spoil the advantage of this fresh start by omitting either showroom or accessory store.

In storing the cars it was found advisable to place two rows on one side of the aisle. If you are not familiar with this arrangement you may wonder how the back cars can be moved without disturbing the front row. The answer is, they can't; but if the cars in front are the ones which go out early and come in late and those in back are the ones which come in early and go out late, the cars in front will be out of the way when those in back are moved in or out.

### Scripps Produced 1020 in May

**DETROIT, June 7—**The Scripps-Booth Motor Car Co. produced 1020 cars last month, working on a basis of 22 days to the month.



*Two-story building for Otto Schwinck Garage*



A Department of  
**BETTER MECHANICS**

No. 106 (Continued)

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Modern Methods in Ford Service

(CONTINUED FROM THE JUNE 4 ISSUE)

*Taking down the engine—Various engine stands used—Testing and straightening the crankshaft—Rebabbitting the block*

By J. Howard Pile

THIS is the second of a series of articles on the best methods of Ford repairing. The first installment appeared in the June 4 issue and covered—Organization in the shop, use of the repair order, list of the standard overhaul operations with the prices of labor, taking the engine out of the car. Future installments will deal with burning in the bearings, aligning the connecting rods, cylinder reboring, transmission overhaul, magneto testing and repairs, assembly of the engine, service operations on the rear assembly, front assembly, steering gear and all parts of the car.

### PART I—THE POWER PLANT (Continued)

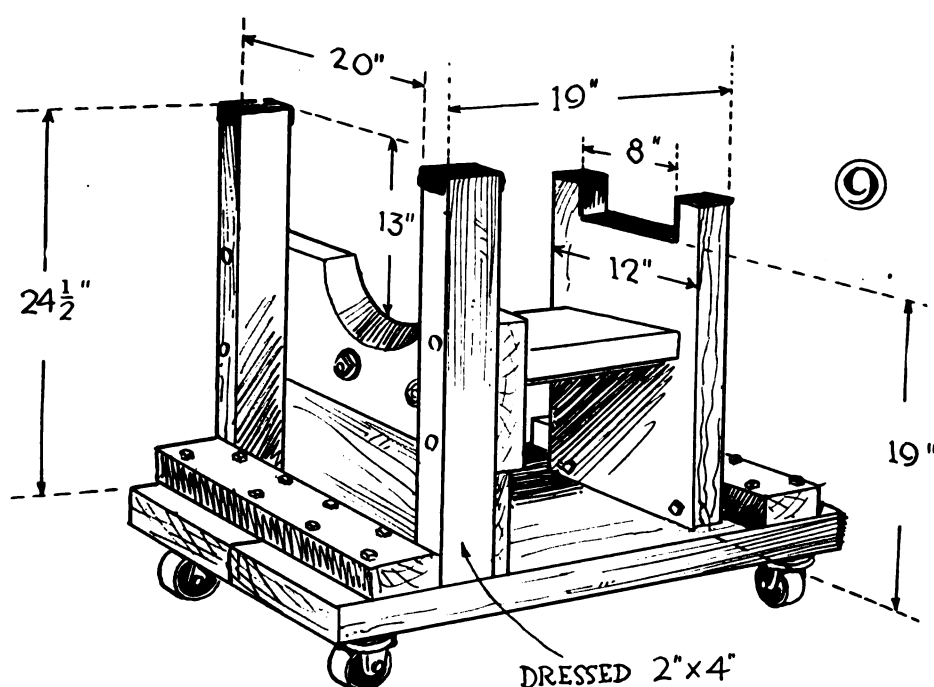


Fig. 9—Wooden engine stand for holding the assembled engine in its natural position

#### 2—Taking Down the Engine

FOR rapid work on the engine, both in taking down and in assembling, an engine stand must be used. Just how many and what kind of stands to use will depend largely on the volume of work to be done in the shop. The simplest and cheapest engine stands are constructed of wood and are made in two styles, one holding the engine right side up and the other holding it upside down. These are shown in Figs. 9 and 10. A metal engine stand which is lighter is shown in Fig. 11. These stands are for assembly and taking down only and there is no means of fastening the engine to the stand. These stands should be provided with castors so that the whole assembly can be easily moved about by one man or a helper.

After taking the engine out of the car with the tongs (Fig. 13) and chain hoist, it is set on one of the stands shown in Figs. 9 or 11, and the work of taking down starts.

1—Drain the oil into a pail by taking out the drain plug. The gasket should be renewed as it is hard to get an old one tight, so this one can be junked. Put the plug back in the hole after the oil is all



out and screw it in far enough so that it will not lose.

2—Take all the cotter pins out of the crankcase bolts and transmission case bolts. They are to be junked.

3—Remove the fan shaft bracket by taking out the cotter pin at the back end of the bolt, taking off the locknut and screwing out the long bolt.

4—Take off the fan belt.

5—Remove the timer from the camshaft.

6—Remove the timing gear case by taking out the cap screws.

7—Loosen the reverse, low speed and brake adjustments on the transmission.

8—Hold the boltheads underneath the transmission case with a  $\frac{3}{8}$ -in. open end wrench or a knee wrench and turn the nuts off with a  $\frac{3}{8}$ -in. speed wrench. A few socket wrench may be used and one is shown in Fig. 16.

9—Remove the transmission cover, the pedals coming off with it.

10—Loosen the cylinder-head bolts with a  $\frac{7}{16}$ -in. end wrench.

11—Turn the bolts out with a  $\frac{7}{16}$ -in. speed wrench.

12—Lift off the cylinder head. If it sticks, it can be started loose by cautiously slipping the point of a screwdriver between the head and the block and turning or prying until the joint loosens. It is then lifted off by catching a finger of each hand in the spark-plug holes of cylinders 1 and 4.

13—Hang the copper-asbestos cylinder-head gasket on a nail if it is in fair shape to be used again, otherwise put it in the junk box.

14—Remove the nuts from the valve-cover studs with a  $\frac{3}{8}$ -in. speed wrench.

15—Remove the valve covers.

16—Put the nuts back on the studs to prevent their getting lost.

17—Mark the valve heads with a cen-

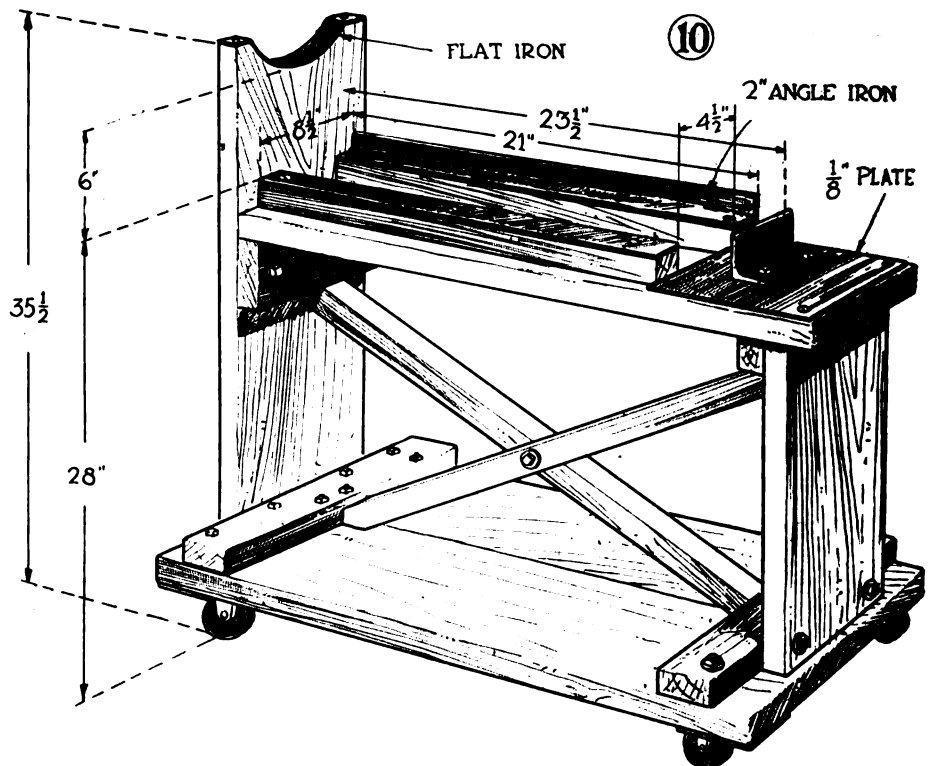


Fig. 10—Wooden engine stand for holding the assembled engine upside down for easy removal of the crankcase and subsequent work on the bearings and connecting rods. The head is removed from the engine before transferring it to this stand

ter punch, starting with the front No. 1 to the back No. 8.

18—Raise the valve springs one at a time with the valve lifter and pull out the pins. The pins can best be taken out with a light pair of pliers with long noses. This is quicker and easier than using the fingers.

19—Lift out the valves by the heads.

20—Pull out the springs and cup washers.

21—Turn the engine upside down and set it on the stand shown in Fig. 10.

22—Hold the crankcase nuts with a  $\frac{3}{8}$ -in. open-end wrench or knee wrench.

23—Turn out the bolts with a  $\frac{3}{8}$ -in. speed wrench. (See Figs. 14 and 15.) The jaw socket wrench shown in Fig. 16 may also be used for this purpose.

24—Remove the crankcase.

25—Remove the three brake bands by slipping them back off the drums.

26—Take out the wire that locks the flywheel bolts.

27—Remove the flywheel with a flywheel wrench.

28—The transmission will now come off and it is to be laid aside until it is ready to be disassembled further.

29—Remove the four bolts that hold the field coil assembly to the block.

30—Lift off the coil assembly.

31—Remove the oil pipe.

32—The engine block, now containing the crankshaft, connecting rods, pistons and camshaft is washed with kerosene to remove all the oil and dirt.

33—Place the block in a stand shown in Fig. 18.

34—Turn the block in the stand so that the cylinders are horizontal, then latch the stand in this position.

35—Remove the  $\frac{3}{8}$ -in. cap screws that keep the camshaft bearings from turning.

36—Remove the timer roller locknut and roller.

37—Pull the camshaft out through the front of the engine in one unit with the gear wheel.

38—Mark the pistons on top with a center punch, 1, 2, 3 and 4.

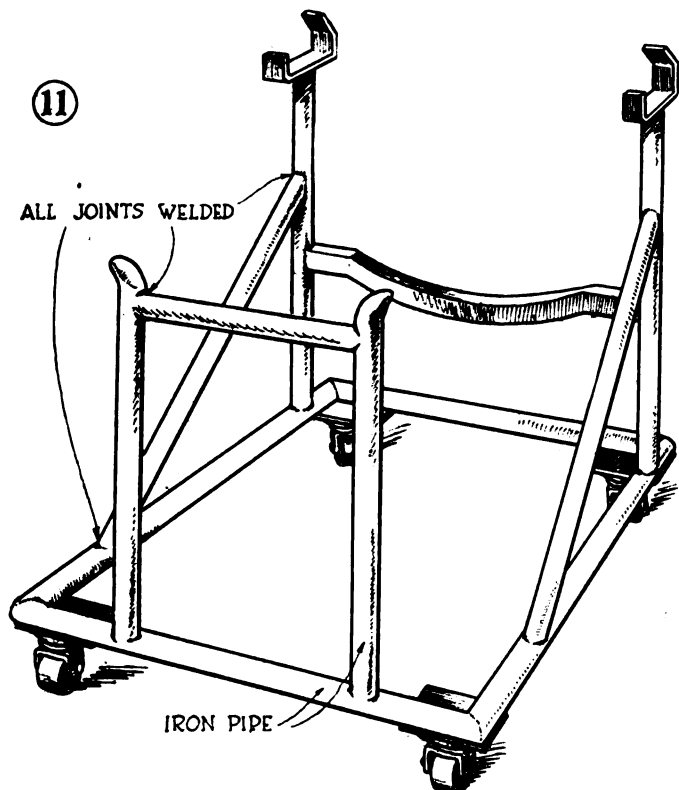
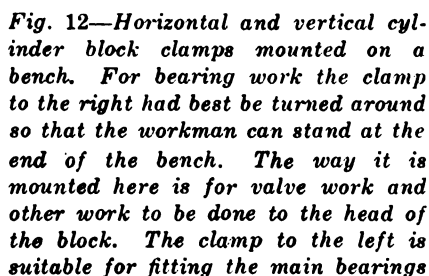


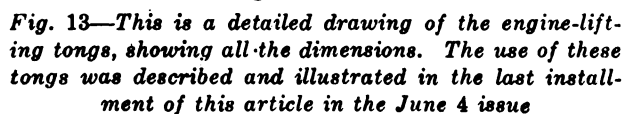
Fig. 11—A metal engine stand made from iron pipe welded at the joints. It answers the same purpose as the wooden one shown in Fig. 9 but it is lighter in weight





45—Lay the pistons on the bench on their heads.

**Fig. 14 (right)—**  
**Removing the**  
**crankcase bolts**  
**with a knee**  
**wrench and**  
**speeder**





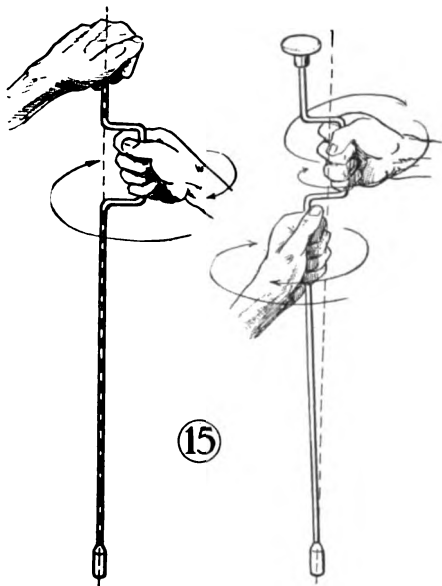


Fig. 15—In using a speeder of any kind, greater speed can be obtained by holding the right hand on the crank and the left hand just below the crank and making both hands move. This just doubles the speed obtained by holding the right hand on the crank and the left hand on top, because the "stroke" is only half as much

indicator resting lightly on the center bearing of the shaft.

3—Turn the shaft around slowly, keeping your eye on the needle. A variation of .002 in. is permissible, but more than this indicates that the shaft needs straightening. The high side of the shaft is marked with a piece of chalk.

4—A bent shaft is straightened in a straightening press which forms the rear part of the tool shown in Fig. 19. The

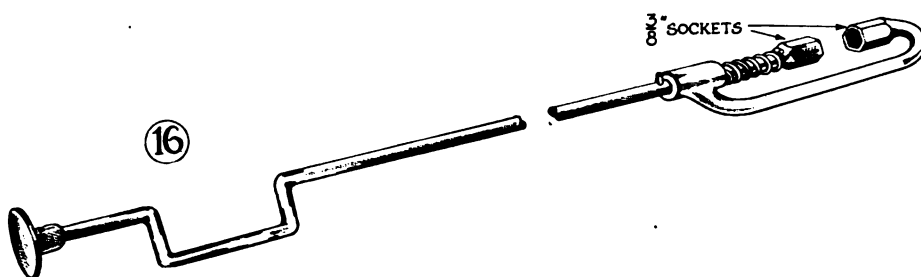


Fig. 16—Jew socket wrench for removing the crankcase bolts. This method is even faster than the knee wrench and speeder as the spring holds the lower socket up against the bolt head

shaft is laid across the two lugs with the chalked or high side up.

5—Pressure is applied to this point by setting down on the screw and the shaft is tested again.

6—This operation is repeated until the needle of the indicator shows a variation of not more than .002 in.

7—A shaft that is much out of line should be tested also on the two end bearings after straightening as there is a possibility of throwing these out of line when bringing the center bearing in line.

8—A shaft that shows true on the center bearing before straightening will be true on the end bearing.

9—If the main bearing surfaces are true, the crankpins are bound to be true. Even a new shaft from stock should be tested for alignment as there is a possibility of its having received rough usage at some point in its travels from the factory to you.

#### 4—Rebabbitting the Cylinder Block

If the babbitt in the cylinder block is loose or much worn, the block will have to be rebabbitted. This may be done by sending the block to the nearest Ford branch or it can be done with a babbitting jig as follows:

1—Hold the block on the engine stand

so that it is bottom side up and the cylinders as nearly perpendicular as possible.

2—Cut out the old babbitt metal, taking care to clean out the holes which key the babbitt to the block and also the oil holes.

3—Clamp the babbitting jig (Fig. 20) in position with the camshaft centering pins in the camshaft bearings. This gives the correct gear distance between the camshaft and the crankshaft so that the gears will mesh properly.

4—Turn the eccentric locks up against the bearings to prevent leakage of babbitt.

5—Melt the babbitt in a ladle. To produce a satisfactory bearing, use the best grade of babbitt, melting about 5 lb. in a 10-lb. ladle.

6—It should be heated till it scorches a pine stick but does not set it on fire. If it sets it on fire, it is too hot, the metal has been burned and should be discarded.

7—Stir the metal with the stick and skim off the dross.

8—Pour the metal quickly but steadily into the molds.

9—Needless to say the molds should be absolutely clean, dry and free from oil and grease. A trace of moisture would be turned to steam by the hot metal and this would forcibly expel the molten

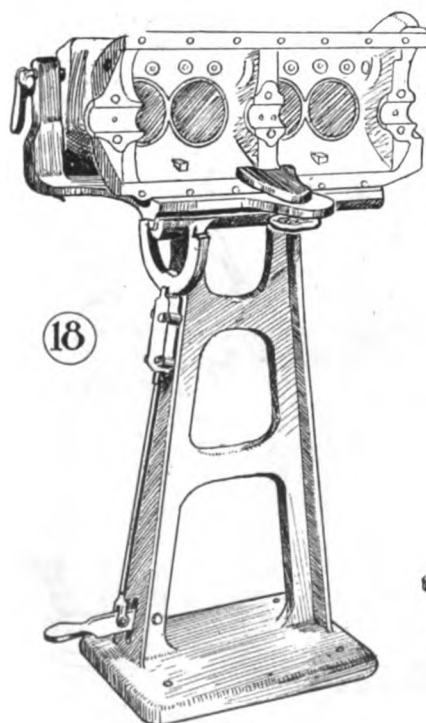


Fig. 18—Cylinder block stand that will hold the block in three different positions. The latch is operated by the pedal and catches in any one of the three slots. The castored platform shown below can be bolted to the bottom of the stand with four bolts

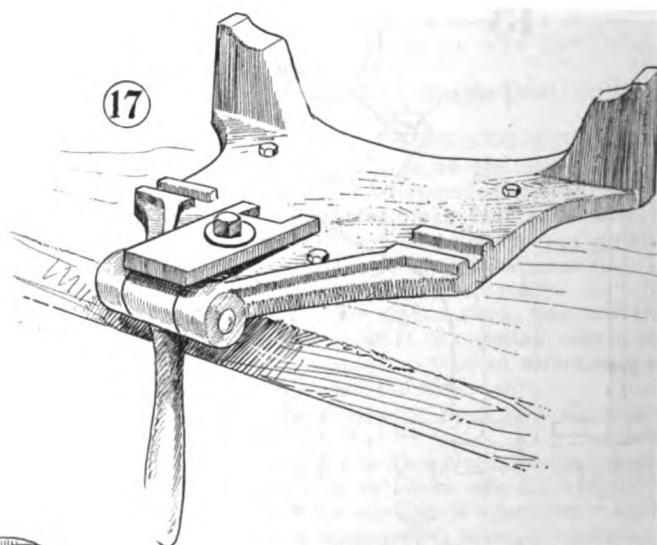
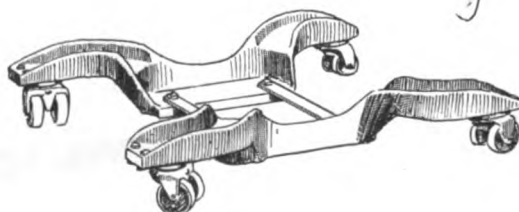


Fig. 17 (above)—Cylinder block stand for bolting to the bench. This holds the block in a horizontal position for work on the bearings, pistons, etc. The handle operates an eccentric cam which locks the block to the stand.





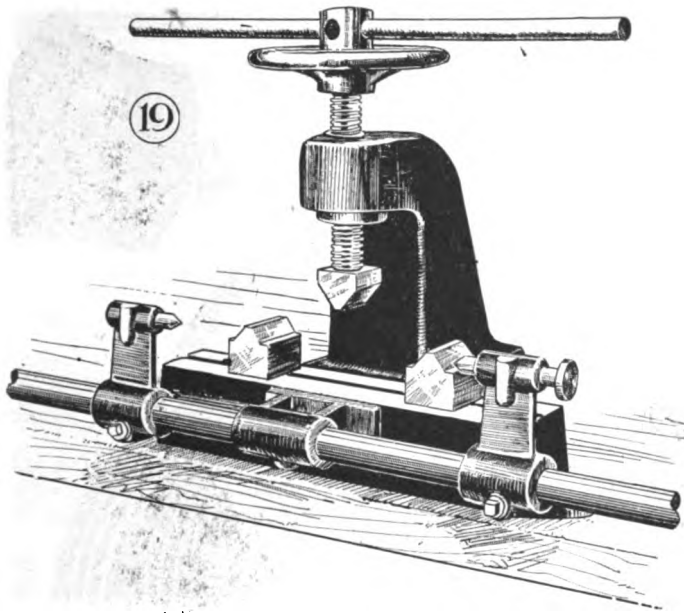


Fig. 19 — (Left)  
Crankshaft  
straightening  
press and testing  
machine. The  
shaft is caught  
between the centers  
and tested  
with the gage  
shown in the figure  
to the right

Fig. 19a — (Right)  
This gage has a  
plunger that extends  
from the bottom of the  
dial and this records  
any up and down  
motion on the dial  
which can be set  
to zero

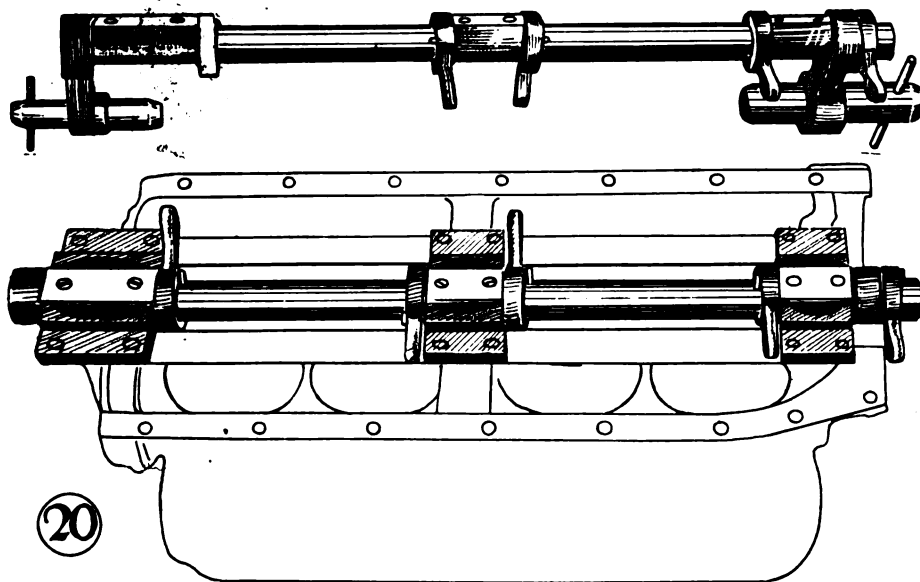
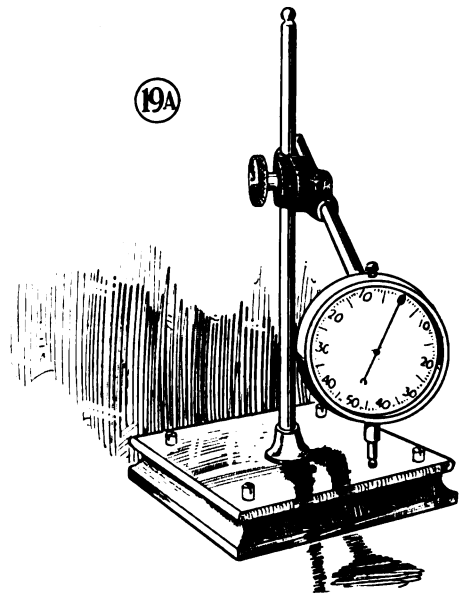


Fig. 20—The rebabbiting jig set in position on the block. The correct distance between the camshaft and crankshaft is secured by the lugs which fit into the camshaft bearings

metal, necessitating the removal of the jig, cleaning the bits of metal and starting all over again, not to mention the possibility of injury to the operator. This cannot happen in a perfectly dry mold. Oil or grease may cause somewhat the same trouble and make blow holes in the bearing. It is best to pre-heat the portion of the block around the bearings with a blow torch or gas torch and also heat the jig as this will make a smoother job.

10—If the metal is too cold, it will not get into the corners of the mold and it will not hug closely around the shaft.

11—After the metal has cooled off enough to set, remove the jig and file off any fins that have been formed. The babbitt should be flat across with the iron seat that the cap rests on.

12—If the babbitt has been well done, the metal at the right temperature, the casting preheated and it flows up smoothly around the shaft there should be no

need to ream the bearings before burning in. However, a more satisfactory job will result if the bearings are reamed or bored with a special jig or reamer, of which there are several excellent makes on the market.

13—Rough scrape the bearings to fit the crankshaft endwise, being careful not to remove too much metal. There must be no endplay to the crankshaft.

14—The bearings are now ready to burn in.

If no other operations are necessary, the preparations for burning-in can be started at once, but if the cylinders are to be rebored, the reboring should be completed before the bearing work is started because it is not necessary to disassemble the bearings after they have been burned in. The overhauling and assembly of the pistons should also be completed before starting to burn in the bearings. These subjects will be taken up fully in the next installment of this article.

### The Next Installment of MODERN METHODS IN FORD SERVICE

Will Appear in Next Week's  
Issue

IT will deal with overhauling the piston and connecting-rod assembly, fitting the rings, aligning the bearings, replacing the bushings, reboring the cylinders, fitting the pistons and generally getting the engine in shape to burn in the bearings which will be covered in the next installment following. It will describe a considerable number of devices for saving time, doing better work and insuring more perfect jobs. Future installments of the article will deal with overhauling operations on all parts of the car including the rear assembly, etc.

□ □

READERS are invited to write us concerning any points that they do not understand. Those inquiries which seem to be of general interest will be answered in this department of MOTOR WORLD, those which are not of general interest being answered by mail. Be sure to give us your name, address and the garage you are connected with, as unsigned communications will not be answered.



# Simplicity Is Feature of A-C Magnetic Speedometer

*Automatic Compensation for Temperature Changes Insures Continual Accuracy*

**T**HE A-C speedometer brought out by the Champion Ignition Co., Flint, is a magnetic type of marked simplicity, and with an ingenious method for regulating and maintaining accuracy in spite of variations in temperature.

The speedometer has a stationary, permanent horseshoe magnet held securely in the interior of the instrument in a manner which is similar to magneto and galvanometer construction. The armature rotates within it, being driven by the flexible shaft.

The armature is segmented into poles, the magnetic current passing through them and being thrown or shunted in the direction of rotation and carrying with it a non-magnetic element in the form of an inverted aluminum cup having on its periphery the scale which indicates the velocity of the vehicle either in miles or kilometers per hour. The light weight of the aluminum cup renders it so sensitive to the magnetic drag that the instrument starts to register at a speed of 1 mile per hour. The speedometer is graduated up to 75 m.p.h., with graduations indicating every mile.

Objections to magnetic speedometers in the past have generally centered around the fact that the magnet expands in warm weather, thus, when cold, increasing the distance from the armature. This slight variation is compensated for in the A-C instrument by an automatic thermostatic control which changes the relation of the armature laminations one to the other, thereby advancing or retarding the magnetic flux as may be necessary. In this way the speedometer will give correct reading regardless of temperature. There is an adjusting screw for making the primary setting on the magnet and this is set at the factory.

The speed recording elements are con-

*New A-C magnetic speedometer with flexible shaft. Note how flexible shaft is connected to center of back of speedometer*



tained in one-half of the housing and the odometer component in the other. The only connection between the two is a worm shaft which operates the odometer. The odometer will register mileage up to 100,000 and repeat on the total, which in this instrument is placed on the side.

The trip register which can be reset either forward or backward, to any desired figure, is at the left. It registers in miles and tenths to 100 and repeats, the tenth figure being the same color as the unit figure, but divided by a decimal point.

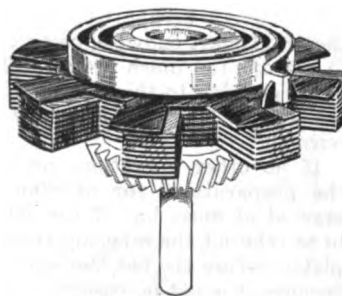
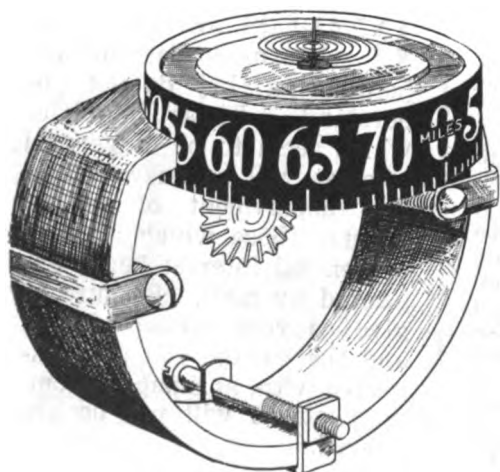
The halves of the speedometer are assembled and united by a steel band forced over the broad flange surface of the instrument by pressure. The moving parts are fully jeweled, having two large jewels of sapphire and garnet.

There are several design features which are unique in the instrument, a valuable point being the connection of the flexible shaft to the back so that it can be hidden completely from view. The neck to receive the shaft is concentric with the instrument and has a  $\frac{1}{4}$ -18 S. A. E. (spark plug) thread. The ferrules have a tapered fit, making alignment perfect.

The speedometer is held into the instrument board of the car by a patented band clamp having slots tapered so that when turned, projections go into the slots and cause a forward movement of the clamp, thereby securing it. It is locked by tightening a screw.

The front face of the instrument is die cast of aluminum with a gun metal enamel finish. The escutcheon flange is either nickel or enamel or can be made in any desired finish. The back part of the instrument is also die cast and oxidized black. The reset knob in the center is nicked. The figures on the indicating and registering member are white on black as standard.

A special flexible shaft has been made for this instrument and greater durability and strength are claimed for it. The cable is made of alternately wound mono-coil music wire of four layers, each layer having four strands totalling  $\frac{3}{16}$  in. diameter. The cable ends are secured by a patented process and guaranteed by the manufacturer not to break loose. The coupling nuts are made large for good contact. The casing is tempered material wound with two strand wire and coiled tightly to hold grease in case of severe bends. All parts are rust proof.



*Magnet and rotor of A-C speedometer, showing thermostatic compensator on rotor*



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Co-operation Wanted

Editor Motor World: Charleston seems to be the one place in the United States that progresses in every line, especially in the automobile dealers. There are here now 14 dealers and 7 accessory concerns handling 34 different makes of cars that have absolutely no dealer co-operation or organization, and, as far as I know, there never has been any.

About the only way they do co-operate is when one cuts his price the competitors do the same. This will in time have disastrous consequences for some or all of them. Every one

that I have talked to seems to want something started toward organization, and as soon as you leave him he can't say anything too mean about you. It is a pity that we don't get some new blood here that has had experience in organization work to start it here. Mr. Vesper himself would be fine and start it right.

Here's hoping that some one sees this that knows the traits of this old historic town better than I and can give a lift by getting the organizers behind the dealers here.—J. B. Tait, Army Cycle Mfg. Co., Charleston, S. C.

that I have ever had the pleasure of attending, as everyone seemed to go into it wholeheartedly, and sales have been promoted that I am confident would not have been for some time to come had it not been for the enthusiasm shown by the various automobile dealers.—Russell Hardware Co., J. E. Crawford, Manager Accessory Dept., McAlester, Okla.

## For a Number of Years

Editor Motor World: Enclosed please find a contribution for the short-cut page, which I thoroughly enjoy reading. I look for it first thing in every issue of Motor World, which I have been reading for a number of years.—William T. Guenther, Eveleth, Minn.

## That Bumper Question

Editor Motor World: The A. E. Bennett Co., Los Angeles, began the manufacture of a line of bumpers which infringed patent No. 1,052,224. The Gemco Mfg. Co. brought suit against them for infringement about two years ago, upon which an injunction was granted, forcing the Bennett company to discontinue selling infringing bumpers. After a short time, however, this company purchased a quantity of the Gemco brackets through jobbers, and began selling bumpers purporting to be of the Gemco make. The large quantity that were sold led to suspect that they were making their own bumpers. An investigation was commenced and it was discovered that they had their own patterns and were buying castings and manufacturing the infringing brackets on a very large scale. Further investigation disclosed a sign at the Bennett place of business to the effect that the company were agents for the Gemco Mfg. Co. On May 16 Mr.

## Modern Oklahoma Garage

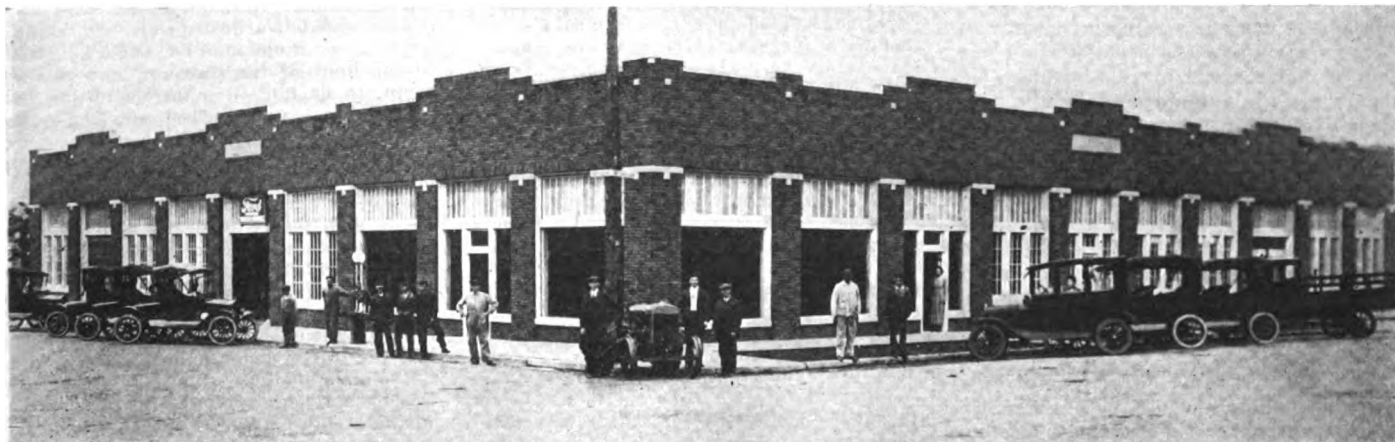
Editor Motor World: Herewith photograph of the new building of the Jones Motor Co., McAlester, Okla., recently constructed, and as we feel very proud of this garage we take pleasure in sending you this photograph trusting that you will find room in your pages to give it publication.

I also wish to say that McAlester is to-day closing a 3-day automobile show held by the dealers of Pittsburg County in this new building, and as I have had the pleasure of attending a number of the largest automobile shows held in the United States, I want to say that I per-

sonally feel that this show is of so much importance that I believe Motor World should mention it.

I am and have been, for the past three years, a constant reader of Motor World and am familiar with your policy of promoting the interests of the motor car industry generally, and trust that you will take hold of this and give it such publicity through your magazine as may be fitting.

We have had the co-operation of the United States Army, inasmuch as it furnished us an airplane as an attraction for the outlying communities as well as the local population. We have had one of the best local automobile shows



*Here is the modern home of the Jones Motor Co., McAlester, Okla.*

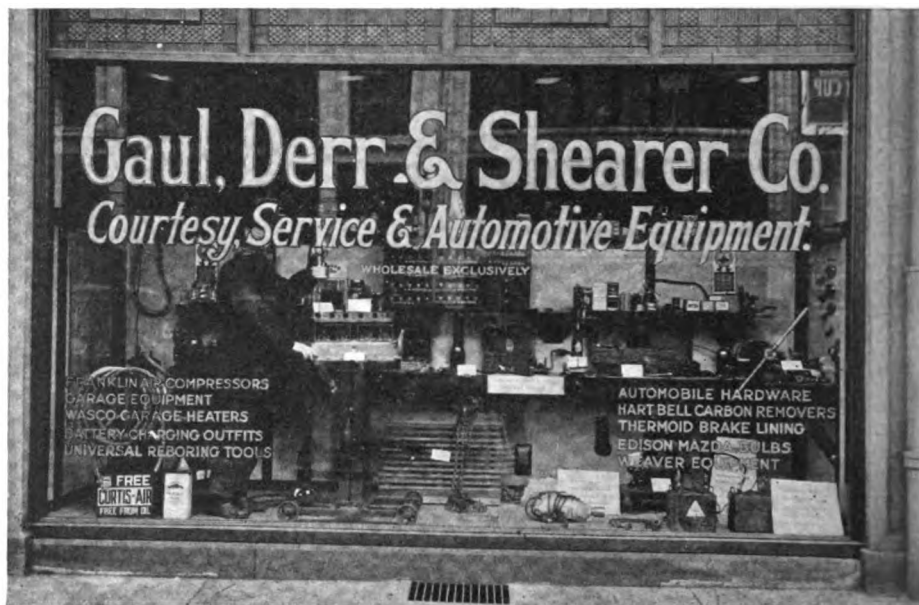


Bennett was brought into court on a charge of contempt of court and upon having the facts presented to him, pleaded guilty to the charge, and was fined \$250. He has been cautioned by the court that another offense of this nature will mean a jail sentence. This information will no doubt clear up some very disturbing conditions that have prevailed on the Coast for the past two years.—Gemco Mfg. Co., G. F. Discher, President.

### *An Elaborate Window*

Editor Motor World: The window illustrated here represents a corner of a garage machine shop. Unfortunately, the lettering on our window obstructs the view of many of the details, and the photograph does not in any way do justice to the display.

The workman who is shown at the left is a dummy who is operating a pneumatic valve grinder, grinding in the valves on a Ford cylinder block, which is mounted on a Manley engine stand. The valve grinder is operated by a portable air compressor, standing on the floor just in back of the mechanic. On the work bench, which extends the entire width of 14 ft. across the window, are laid out the necessary working equipment, in the line of small tools, taps, dies, wrenches, etc. There is a hand-operated bench drill, a vise and valve cutting attachment, also clamped to the



*Here is a window that really sells an idea—the idea of having thoroughly modern service station equipment*

bench, and a bulb case and a small stock of accessories on the upper shelf. To the right is a battery charging outfit, charging two storage batteries.

Our window dresser has carried out the details to an extent that would do credit to our friend Belasco, even to the cigarette stump and burnt matches on

the engine block alongside of the mechanic. The floor is made out of 12 in. squares of heavy compo board, imitating cement, and in the center of the window is a perforated drain outlet painted black to imitate the real thing.—G. B. Shearer, Jr., President, Gaul, Derr & Shearer Co., Philadelphia.

## Dealer Conclusions Regarding the Tractor Business

DEALERS who are experienced in the tractor business entertain no illusions about what the manufacturer of tractors ought to do to make the tractor trade attractive and profitable. By the same token they are not at all afraid to give expression to their views as well. The letter which follows this introduction is a case in point.

The letter is written by Oscar A. Rystrom, one of the best-known and most successful of the real, simon-pure automotive dealers in the State of Nebraska. Rystrom has been a retail dealer in farm implements and automobiles for many years. The automobile department of his business was instituted about 13 years ago, so that as an automobile dealer he ranks as a veteran. Also he early saw the necessity and wisdom of departmentizing his business and separating the automobile from the farm operative equipment part. Therefore today he specializes throughout his organization. In addition to the parent concern at Stromsburg, Neb., which is headquarters for Mr. Rystrom, branch stores are maintained at Polk, York and Benedict, Neb. All these stores are organized along the same general lines as the Stromsburg store and work along parallel lines.

Rystrom was early in the tractor business and understands it thoroughly. His experience has cost him something and, as he says in his letter, during the period he has been selling tractors he "has had

time to come to some definite conclusions."

As these conclusions concern some of the live issues which at this time are engaging the attention of men in the tractor business, what Rystrom thinks will prove of interest and value to Motor World readers. Incidentally, it may be recalled that at the recent Omaha convention of the Mid-West Implement Dealers' Association Mr. Rystrom was elected president of the association for the ensuing year. His letter follows:

Editor Motor World—Referring to tractor distribution, I wish to state that the writer has had experience along this line during the past 13 years, and during this time has had time to come to some definite conclusions.

We have found that it costs money to sell and give the service required to make a satisfactory business in tractor lines, as retail dealers.

In the first place, if a retail dealer in tractors is going to make a success of it that is lasting, he will necessarily have to be an implement dealer that has proved a success. He will more than likely, also, have a large experience selling motor cars and have a garage manned by expert mechanics.

In the next place, he must have the finances to place tractors in stock by the carload at a time when they are to be had. With the foregoing requirements fulfilled he will be in position to sell tractors in a business-like manner, provided he can get a discount on the tractor from the manufacturer that will enable him to pay the necessary expenses and make a profit.

That is where the rub comes. Most of the manufacturers to-day, it seems, have for-

gotten that the retail dealer, in order to pay expenses and make a profit, must have a discount that will enable him to come out right at the end of the year. Most manufacturers admit that they are making a good profit on the sale of tractors, but they seem to be of the opinion that the retail dealers are so anxious to get this business that they are willing to do this part of their business for the fun of it or their health.

The retail dealer in tractors is surely entitled to a profit on this end of the business just as well as the manufacturer. In fact, if he is the right kind of a dealer he will be a big asset to the manufacturer that is willing to treat him fairly.

Most manufacturers have their limit of discount on such a large number of tractors that no ordinary dealer can hope to reach the maximum. To make a long story short, it seems that if a dealer sells, say, eight or ten tractors of one kind he should be entitled to the limit of the discount, and this discount, to be fair on a merchandising basis such as we have described, should be about twice what the ordinary manufacturer is allowing on one tractor at this time. We hope that the manufacturer will see his mistake and get busy and make his arrangements with the retail dealer along the lines we have stated; and if he will do this at once, he will find that the retail dealer will be in a position to save the situation which otherwise may prove to be a bad thing for some of the manufacturers who have gone into the tractor game in such a large way.

The manufacturer should remember that there is only one way to do the greatest good to the greatest number, and that is to treat everyone fairly. It is time for the manufacturers to think this matter over seriously.—Rystrom Implement Co., Stromsburg, Neb.



# THE LAW

By George F. Kaiser

## PERPLEXED?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

## WHEN YOU SELL YOUR BUSINESS

THE sale of a business is always a matter of moment to the parties involved. The seller naturally is eager to get the purchase price and the buyer just as eager to get possession of the business and see what the future holds forth for him. Unfortunately, this eagerness on the part of both parties often results in an informal transfer out of which trouble is likely to grow.

In one case that I remember, two men, Smith and Jones we will call them, got together and drew up a little memorandum by which Smith agreed to sell his garage, repairshop, tools, supplies and good will for \$1000. He further agreed to stay out of the automobile business for 5 years and not to work for any one as a repairman or salesman for the same length of time.

All went well until about a year from the sale, when Jones decided to sell out his business and did sell out to a man named Brown.

After Smith sold out his shop, he started a repairshop, and a number of times Jones came around with cars for overhauling and other repair work. Smith finally sold out his repairshop and went to work as a salesman for the man who bought it.

Brown finally started suit against Smith for breach of contract, and asked for \$1000 damages, claiming that he had broken the contract which had been made with Jones and which Jones had assigned to Brown.

### Will Brown Collect?

The law in this case is very important to any dealer if there is a possibility that he may either sell out or buy out another dealer's business. The first thing to be considered is the part of the agreement that provided that Smith would stay out of the automobile business for 5 years, and would agree not to work for any one else as a repairman or salesman during that time.

If an agreement of this kind cannot be made, then Brown would not have a good law suit in any event.

Is it reasonable as regards the time—five years? It certainly would not be held to be unreasonable. And as regards the place—a small city—the courts would likewise hold it reasonable. And due to the fact that Smith might interfere with the business of the party buying the shop just as much by working

for someone else as by opening a new shop of his own, the fact that he agreed not to work for anyone else as a repairman or a salesman, would not be held objectionable.

So far as Jones is concerned, the agreement was valid and binding, if he wished to take advantage of it.

There is another point which arises in connection with this case, and that is this: Did Jones waive any of his rights by recognizing Smith as a repairman and by bringing cars to him for overhauling, and other repair work.

If a man wishes to sue because another party has broken an agreement not to re-engage in business, he must not give the other party his permission to do so. It would certainly seem, that if he brought cars for overhauling and other repair work to a man who had agreed not to re-engage in business, he would be giving his implied consent to the other party so doing.

### This Happened in Kentucky

In Kentucky, a short time ago, where two partners were proprietors of a hack line, one partner sold out to the other and stipulated that he would not operate a competing line as long as the buyer continued in business. The court decided that an agreement of this kind was O. K. And when the seller re-engaged in business again in competition with his former partner, an injunction was issued in favor of the buyer. He was also allowed damages for breach of contract.

The court said in deciding the case:

"Contracts in partial restraint of trade are now generally upheld as valid when they are agreements by a seller of a business not to compete with the buyer in such a way as to decrease the value of a business; by a retiring partner not to compete with the firm; by a retiring partner not to do anything to hinder the business of the partnership; by an assistant or agent not to compete with the master or his employer after the expiration of his term of service; by the buyer of property not to use it in competition with the business retained by the seller or an agreement made by the lessor of property not to use it in competition with the business of the lessee."—*Nickell v. Johnson*, 172 S. W. (Ky.).

Of course what the court said is true in the usual case, but in the Kansas case, where an opinion was asked, it was different because the buyer sold out to another party after practically consenting to the seller's re-engaging in a business which was started up in competition with the one previously sold.

### Be Careful of Names

WHERE one partnership engaged in the business of selling parts uses a name so closely imitating the name of an established firm engaged in the same business as to be calculated to mislead or deceive, it may be prevented from further use of such name by injunction on application of the injured partnership.

The court held that although persons are entitled to enter the business of repairing and supplying new parts for old automobiles, and although they may specialize in any particular make and model, and advertise that they specialize, they cannot imitate the name of another concern so as to benefit themselves to the injury of the other firm.

It was further held that the injured firm need not wait until the imitative name was actually used, but might get an injunction before it was used even if it was assumed in good faith, without any intention to mislead the public or to interfere unfairly with its competitors' trade. The use of the name Imperial Sales & Parts Co. was, therefore, restrained because it too closely resembled the name Imperial Automobile Parts Co.

### Going After Equipment Service Business

A dealer in Boston who has facilities for giving service on several different lines of equipment is sending out cards to car owners telling them that he is equipped to give service on the particular accessories used on their cars. He first finds out what kind of cars are equipped with the accessories that he gives service on, and he then secures a list of owners of these cars from listing companies.

The cards that are shown are printed on heavy manila, somewhat similar to the ordinary United States postal card. The back of the card is entirely blank and the name and address of the owner are simply written on with pen and ink or on a typewriter and a stamp is affixed in the usual place.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2161—TOWPOLE AND FITTINGS

A towpole is made of 1½-in. pipe of the required length, flattened and drilled at one end to fit the pin in the attachment on the tow car. A piece of old Ford propeller shaft is bent into a hook, fitted with a set screw and riveted into a Ford universal joint which is, in turn, welded to the pipe. The towpole fitting is attached to the tow car by drilling the rear cross-frame member to take the ends of an old Ford front radius rod, the ball being ground off to allow two pieces of plate to be bolted or riveted to the ball end. When these are in place, one on the top and one on the bottom, they allow the end of the towpole to slide in between. The fastening is with a ½-in. pin. When it is possible to strap the radius rod to the overhanging body of the tow car, considerable weight can be carried such as the end of the ordinary dolly or tow beam.—A. G. Albrecht, Midway Auto Exchange, St. Paul, Minn.

## No. 2162—CASE-HARDENING FURNACE

A small case-hardening furnace is made by welding or bolting an old brake drum to the tube of a rear-axle housing, the bell part being closed to prevent the escape of air. A metallic funnel with a mouth the same diameter as an electric fan is soldered or brazed to the side of the housing, a hole being cut in the housing at this point. A coke or coal fire built in the brake drum will have a forced supply of air from the fan and this is sufficient to case-harden small articles.—C. A. Henderson, Auto Electric Department, Kerr Electric Shop, Emporia, Kans.

## No. 2163—CYLINDER-HEAD LIFTER

A cylinder-head lifter for handling hot heads and saving gaskets is made from three pieces of ½-in. pipe and a ½-in. tee. The vertical piece is 8 in. long and the handles each 3 in. long. The vertical piece is threaded at both ends and the handles threaded at one end only.—Asaske Nakamura, Honolulu, Hawaii.

## No. 2164—DRILLING THE FRAME

A hole may be drilled through the frame of a car without the necessity of the mechanic lying on his back by using a pry on the end of the breast drill. This pry is a piece of 2 x 4 laid over a block of suitable thickness. The pressure on the drill is controlled by the pressure on the pry. If necessary, nails

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

can be put in the end of the pry to prevent the drill from slipping off.—George W. Sjoboen, Jewel Car Exchange, Muskegon, Mich.

## No. 2165—CARBURETER WRENCH FOR FORDS

A wrench to remove or replace the carbureter on the Ford without taking off the intake manifold is made of a piece of flat iron or steel 1 in. wide and 5/16 in. thick. It is bent at right angles at the jaw and at right angles again for the handle. The handle is 5½ in., and the distance from the handle to the jaw is 3½ in. The opening of the jaw is 9/16 in.—C. H. Charter, Sticklen Bros. Garage, La Harpe, Ill.

## No. 2166—ANVIL FOR FORD TRANSMISSION BANDS

An anvil for clinching the rivets on Ford transmission bands is made by mounting an old Ford transmission drum with the shaft attached to a 1½-in. tee and nipple, the lower end of the nipple being screwed to a base which is attached

to the end of the bench. This base is cut from ¾-in. boiler plate, drilled for screws and tapped out with a 1½-in. pipe top. One side is cut off flat and the drum overhangs the end of the bench.—W. H. Kutscher, Springfield, Ill.

## No. 2167—HOLDER FOR WELDING STICK

Short pieces of welding rod can be utilized by making a holder out of half round iron fitted with a handle. The main piece of half round is about 12 or 14 in. long. The movable jaw is also of half round stock with a hole drilled near the center for a cap screw which is threaded into the main piece. A spring at the rear end keeps the jaws together and the jaws are formed at the end to catch the welding rod without slipping. A wooden handle completes the device. Pressure of the thumb on the small piece right over the spring releases the rod by opening the jaws.—J. N. Bagley, J. H. Haney & Co., Hastings, Neb.

## No. 2168—DRYING CEMENTED PATCHES

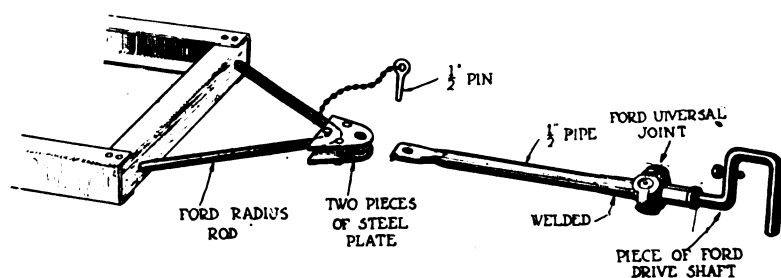
A rack for drying cemented patches is made by fastening spring clothes pins to the edge of a shelf or on a wooden pole. The repair sections or patches are held by the clothes pins till dry.—J. A. Baugh, Camper & Baugh Vulcanizing Works, Alameda, Cal.

## No. 2169—BELLOWS TO BLOW OUT DIRT

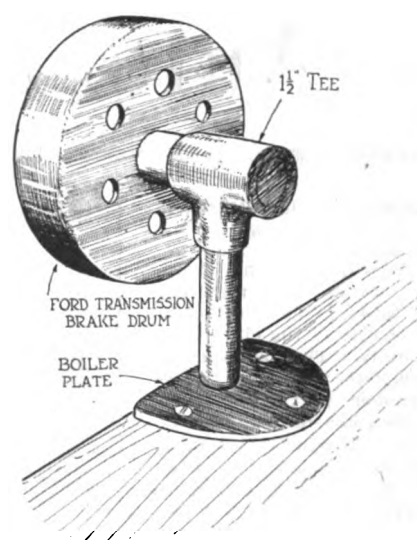
Dirt and pieces of carbon are blown from cylinders and cylinder heads with a molder's bellows about 22 in. long. By hanging the bellows near the engine stand they will often save time even if compressed air is available.—Floyd Bliss, Aurora, Ill.

What caused me to put in my automotive equipment department? It was this way. This is becoming an automobile section of the city. Men came to me to purchase cars. Why should I send them downtown for the necessary small things? It is a convenience to the buyer and I make money out of it.—J. W. Prather, parts department manager, Maxwell, Chalmers and Winston, Kansas City.





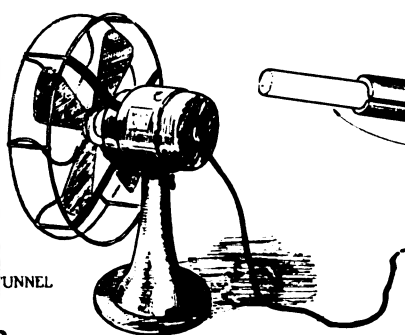
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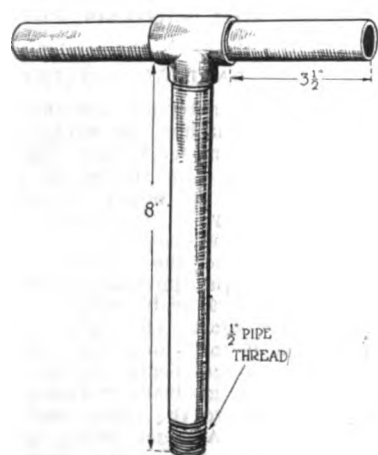
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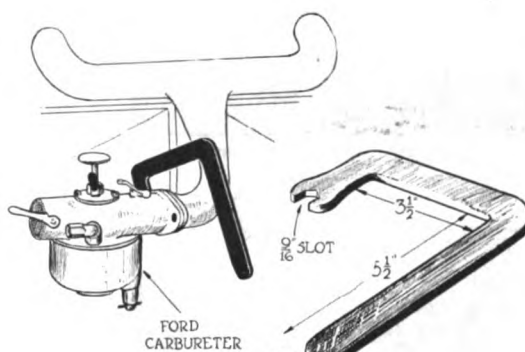
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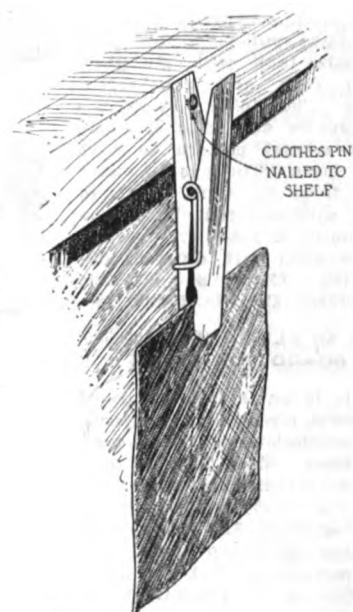
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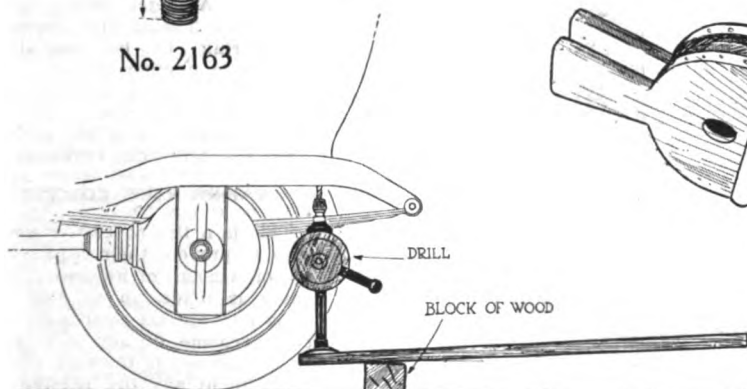
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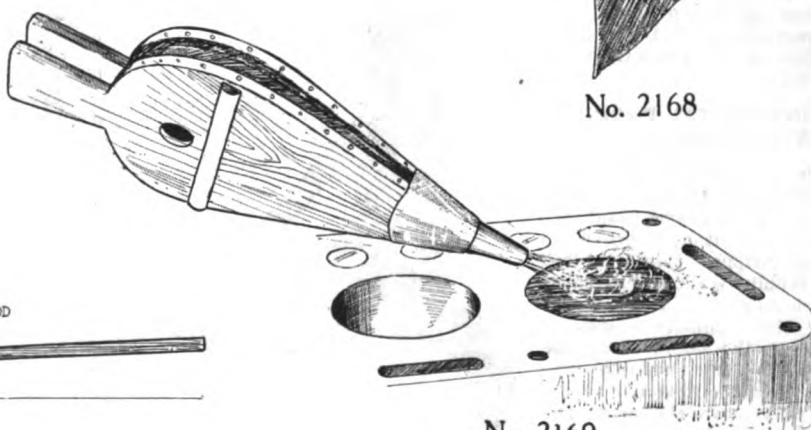
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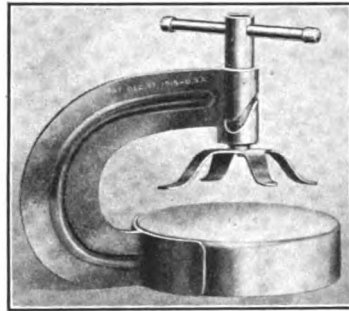
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# Automotive Equipment

## UNIVERSAL VULCANIZING OUTFIT CLAMP

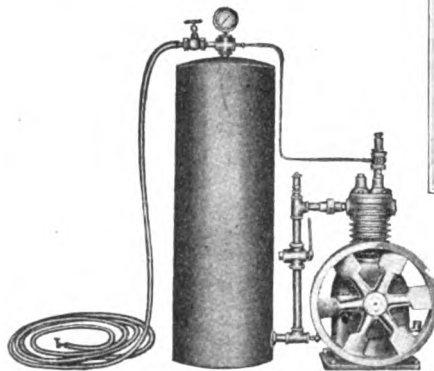
This is a quick-acting, light-weight clamp for repairing inner tubes. The complete outfit consists of the clamp and patch units. The patch units are complete with the necessary rubber patch and solid fuel, which can be ignited with a match. The unit maintains its heat for about 5 min. which is sufficient time to vulcanize the repair. The clamp is made of pressed steel, nickel-plated and takes but little space. The spider is made of spring-tempered steel of sufficient strength to clamp down the patch tightly, but resilient enough so that it does not bend the tin cup and burn the tube. Price \$1.50 for a complete outfit, consisting of clamp and six patch units in a box.—Joseph Pollak Tool & Stamping Co., 81-85 Freeport Street, Boston.



Universal Vulcanizing Clamp

## CURTIS STYLE-S AIR COM- PRESSING OUTFIT

This outfit includes an air compressor with hand-unloader and tight pulley, welded steel pressure tank with air gage, drain cock and pop safety valve. The piping between the compressor and tank is made of a special pattern to save floor space. There is an outlet cock from the tank, 20 ft. of hose with a rapid chuck, and the outfit is made in five different sizes with different capacities.—Curtis Pneumatic Machinery Co., St. Louis, Mo.



Curtis Air Compressor

## VAN SICKLEN INSTRUMENT BOARD FOR FORDS

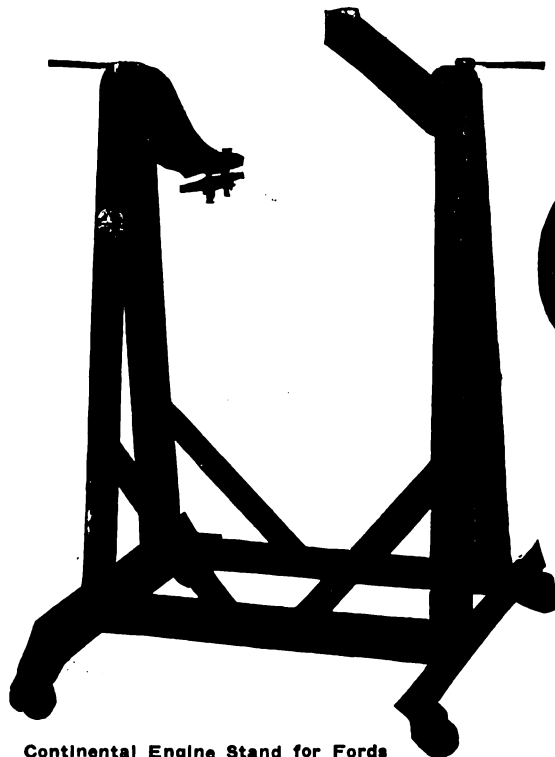
This is an instrument board for Fords for holding the speedometer clock and a dash electric lamp. Made in a number of different sizes to fit the various Ford body models, prices ranging from \$17 to \$26, depending upon the model and the equipment.—The Van Sicklen Co., 14 Chicago street, Elgin, Ill.



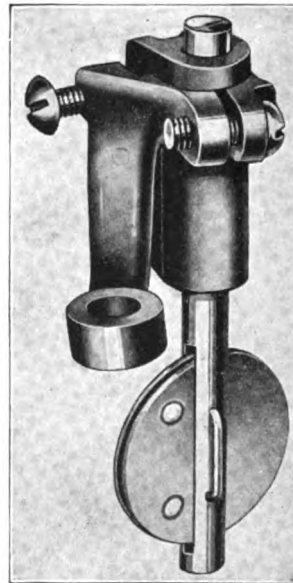
Van Sicklen Instrument Board

## CONTINENTAL ENGINE STAND FOR FORDS

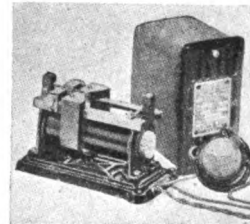
This is a stand built specially to handle the Ford engine. The complete power plant can be placed in it and torn down to the stripped cylinder block and rebuilt without having to change its position in the stand. After the complete engine is placed in the stand it can be turned in any position and firmly locked. It is not necessary to remove the crankcase or take off the transmission before the engine can be fast-



Continental Engine Stand for Fords



Apex Pneumatic Butterfly



F-F Battery Booster

ened to the stand. Weight 115 lbs. Price \$30.—Continental Auto Parts Co., Knightstown, Ind.

## APEX CARBURETER- THROTTLE PNEUMATIC BUTTERFLY

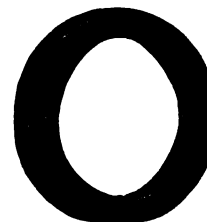
This is a carbureter throttle which takes the place of the standard throttle or butterfly valve in any 1 in. Holley or Kingston carbureter regular equipment on Ford Cars. The volume of air mixing with the gasoline vapor flowing from the carbureter is mechanically operated with the regulation of the engine speed through the operation of the throttle. The throttle can be applied in a short time with no change in the adjustment of the carbureter and with ordinary tools. When the engine starts, the throttle delivers air into the carbureter slowly giving a rich mixture for quick starting. As the throttle is open for greater speed the throttle delivers a much higher percentage of air and the result is a leaner mixture. When the throttle is two-thirds fully advanced it acts the same as the ordinary butterfly valve. Price \$3.50.—Apex Electric Mfg. Co., 1410-1412 West Fifty-ninth Street, Chicago.

## F-F BATTERY BOOSTER

This is a rectifier for changing alternating current to direct current for battery charging. The line voltage is reduced to the proper charging voltage by a transformer. It can be connected to any lamp socket and the current consumption is equivalent to burning a 100 watt lamp. The charge starts at a high rate from 10 to 15 amperes and as the charge nears completion the rate gradually reduces itself due to the rising battery voltage. A meter shows what current is flowing and there is no wiring to be installed. Made in a number of sizes and types of different current capacity and different voltages. Prices ranging from \$24 to \$44.—France Mfg. Co., Cleveland.

## BAKER TIRE COVER

This is a tire cover for spare tires to prevent their depreciating on account of weather. The cover is made up in DeLuxe style and special color and the color scheme of any car may be carried out in the tire cover. Made to fit any tire regardless of the style of carrier used.—Baker & Lockwood Mfg. Co., Kansas City, Mo.



Baker Tire Cover



# The RETAIL NEWS

## SOUTHWEST

**E. M. Boon**, Brownwood, Texas, automobile dealer, will erect a new 50 x 100 building adjoining his present salesrooms.

**Funnels-Oliver-Riley Motor Co.**, Little Rock, Ark., will build a display room which will cost \$10,000.

**C. W. Fischer**, Purcell, Okla., has opened a new vulcanizing plant.

**L. G. Springer**, Randolph, Kan., has opened a Chevrolet agency.

**O. H. Eden**, Sapulpa, Okla., has opened a vulcanizing and retreading shop.

**Whitesides & Son.**, Graham, Tex., have completed a new building in which they are installing new equipment for automobile repair work.

**People's Vulcanizing Plant**, Leavenworth, Kan., has opened a vulcanizing shop in the Phelps Building.

**Tri-state Tire Co.**, Texarkana, Ark., has filed articles of incorporation with the clerk of Miller county, with a capital stock of \$15,000. The incorporators are: George Stroud, Rollin W. Rogers, F. J. Wilcox and E. M. Gleason.

**Freed Auto Supply Co.**, Galveston, Texas, has opened for business. A complete line of Ford parts and accessories will be carried in addition to Star and McGraw tires, catering to both retail and wholesale trade. I. Freed is proprietor.

**John Donaghy**, Pawnee, Okla., has opened a painting shop.

## PACIFIC COAST

**Hartman & Stein**, Portland, will erect a one-story garage, brick, 78 x 100, at 5th and Everett streets.

**Franklin-Wicks Co.**, Seattle, Franklin distributor, will erect a two-story and basement, brick and concrete garage and salesroom to be 72 x 100, at 1522-24 Belmont Avenue.

**Pohle & Son**, Salem, Ore., will construct a concrete garage and salesroom, 55 x 75, one-story, to cost \$10,000.

**C. Sprinkle & Co.**, Spokane, will occupy a new fireproof concrete and brick one-story building, which will be equipped with a machine shop.

**D. C. Warren Motor Car Co.**, Portland, and **Roesch & Olson**, Seattle, each firm distributing the Velle in its territory, have consolidated, and the combined organization will handle the Peerless in Washington, as well as Velle cars and trucks.

**J. H. Ainscough**, Portland, Oregon distributor for Kelly-Springfield passenger car and truck tires, will remove to larger quarters at Broadway and Ankeny Street, where he will build a large new building.

**Apperson Motor Car Co.**, Portland, will in future be known as the Fike-Horn Motor Car Co., with C. F. Horn, president, and Roy Fike as vice-president and general manager. The firm will continue to distribute the Apperson in Oregon territory.

**Consolidated Stage Co.**, Lakeview, Ore., has completed plans for a two-story brick garage, 90 x 100.

**Guarantee Tire Co.**, San Francisco, will open a branch office at 819 East Pike Street.

**S. D. Bernstein**, Portland, will erect a brick garage, 57 x 140, on Corbett Street, to cost \$15,000.

**Collin & Radford**, Colman Block, Seattle, will erect a two-story masonry garage, 30 x 67, at 1603 Howard Avenue, to cost \$10,000.

**Ackley & Miller**, Tillamook, Ore., will erect a one-story concrete garage, 105 x 143, to cost \$20,000.

**W. J. Orton**, Puyallup, Wash., will erect a concrete garage to cost \$10,000.

**A. G. McCandless**, Vancouver, B. C., will erect a one-story brick garage, 40 x 70, costing \$8,000.

**National Storage Battery Co.** and **Sunset Motor Co.**, Seattle, have leased a building to be erected at Howard and Pine streets.

**Pacific Tire & Rubber Co.**, Portland, has recently added a complete tire repair and retread station.

**Long's Auto Supply Co.**, Portland, has opened a new supply store at 335 Ankeny Street. Long also has agency for Kelly-Springfield tires.

**Victory Motor Car Co.**, Seattle, has been formed by Charles H. King, president; C. H. Donnellon, vice-president, and H. H. Lerch, secretary-treasurer, to handle Haynes cars.

**E. R. Peoples**, Seattle, will erect a masonry garage, 105 x 76, to cost \$20,000.

**J. Duncan**, 1358 32nd Avenue, Seattle, will erect a one-story garage, 87 x 60, to cost \$8,000.

**Manley Auto Co.**, Portland, has taken over the distribution of the Stearns for the entire state of Oregon and twelve counties in southern Washington. The company also handles the Grant, Hupmobile and National.

**William L. Hughson Co.**, Portland, has taken the agency for the entire line of Lee Loader & Body Co., in Oregon.

**Hermiston Auto Co.**, Hermiston, Ore., will erect a two-story reinforced concrete building, 75 x 80, costing \$12,000.

**V. L. Walser**, Spokane, will begin work on a brick garage, one-story, 35 x 60, to cost \$6,000.

**A. J. Rosseau and E. E. Archibald**, Albany, Ore., will erect a two-story brick garage, 100 x 112.

**E. W. Bader**, Seattle, will erect a two-story building costing \$30,000 at 9110 11th Avenue, to be occupied by Hoyt & Hicks, as a top and body factory.

**R. E. Anderson**, Tacoma, has let contract for a new two-story garage to cost \$40,000 and to be occupied by the Pacific Car Co.

**Terminal City Motor Co., Ltd.**, Vancouver, B. C., will erect a two-story, reinforced concrete garage and salesroom, 66 x 120, costing \$35,000.

**Irvington Auto Co.**, Portland, will occupy a new one-story, 100 x 100 brick and concrete garage, to cost \$15,000.

**E. F. Day**, St. Johns, Ore., will erect one-story garage, 50 x 125, of concrete and brick.

**Thomas Brashear**, Union, Ore., will erect a one-story brick garage, 50 x 100, to cost about \$7,500.

**Whitney Motor Co.**, Hoquiam, Wash., will begin work at once on a two-story con-

crete garage, and repairshop, to cost \$75,000. Modern machinery will be installed.

**Arno Meezen**, Marshfield, Ore., will erect a new concrete garage, 75 x 145, to cost \$12,000, in that city.

**Brunn Motor Car Co.**, Lexington and Elcar distributor, Portland, will move to larger quarters on Broadway and Couch Streets.

**E. R. Peoples**, Seattle, will erect a garage, 105 x 76, cost \$20,000, at Melrose and Pike Streets.

**Blewett Garage**, Cashmere, Wash., will erect new garage, 58 x 120.

**A. J. Eberhard**, Seattle, will erect two-story concrete salesroom and garage, 110 x 40, costing \$30,000.

**Blau Bros.**, Kirkland, will erect a 100 x 80 concrete garage in that city.

**Hanson Co.**, Seattle, will erect a one-story garage, 108 x 30, to cost \$10,000.

**Western Motors Co.**, Tacoma, will erect a two-story garage, 125 x 80.

**Baker & Campbell Garage**, Myrtle Point, Ore., recently destroyed by fire, will be rebuilt. New structure will be three times the size of the old building.

**W. S. DuImage Motor Car Co.**, Seattle, will remodel its building at 10th Avenue and Union Street, and install a trimming shop, paint shop and decorating shop.

**George and Charles Vick**, Salem, state distributors in Oregon for the Fordson tractor, and Marion county dealers for Ford and Overland cars, have sold their Marion county territory rights to Watt Ship of the Watt Ship Co., Salem. The Watt Ship Co. acquires the Valley Motor Co., Fordson distributor in Marion county and the Vick Bros.' garage in Salem.

**Wiles Auto Co.**, Forest Grove, Ore., will erect a salesroom and garage, 100 x 100, to be used as garage, repairshop and salesroom.

**J. W. De Young**, 1401 Alameda Street, Portland, will erect a one-story garage, 50 x 100, to cost \$9,000.

**Pike & Lund**, Seattle painters, have had plans completed for their proposed five-story, 240 x 120 ft. building to be erected at a cost of \$125,000. Work will be started in the near future.

**Hoskins & Andres**, Portland, will erect a one-story building, 50 x 94, to cost \$8,000.

**Frank A. Rivers Co.**, Seattle, has opened a tire and service station at Westlake and Seventh Avenues. The concern distributes Hood tires.

**Puget Sound Battery Co.**, Tacoma, Willard distributors, is located in a new sales and service station at 703-5 Pacific Avenue, where it purchased the building and remodeled it, installing new equipment.

**Tire Sales & Service Co.**, Seattle, has taken the agency for the Kelly-Springfield tire and will represent the company for Oregon, Washington and Idaho. H. M. Cagne will be the wholesale branch manager in Seattle and Henry E. Schmidt exclusive selling agent.

## MIDDLE WEST

**Wisconsin National Tire Co.**, Milwaukee, Wis., has been organized by W. E. and A. E. Stein and has opened a retail tire store and service station at 484 Milwaukee Street. The firm will act as distributor of Standard Four tires.

**George Huseby**, Clarence Gibson and **Oscar Harriman**, Madison, Wis., have formed a partnership to establish a general automotive repair and service shop in the former quarters of the Brewer-Mosel Auto Co., Madison. All are former employees of the Brewer-Mosel mechanical department.



## NORTHWEST

Stinson & Lindell have purchased the garage at Claremont, Minn., from A. Engbard, to be known hereafter as "Claremont Service Garage."

Lawrence Meech, Rolfe, Iowa, has bought the Avery garage at Bradgate.

Lloyd H. Williams and R. F. Smith, Des Moines, have bought the Des Moines International Motor Truck Co. from B. O. Bean.

E. M. Palmer, Des Moines, has bought the Sioux Rapids Auto Co., Sioux Rapids, Iowa.

L. D. Stephens, Hamburg, Iowa, proprietor of the Willard Storage Battery Co. there, has leased the Stanton garage and will maintain both garages.

Lieut. Claire B. Arnold, Oskaloosa, Iowa, has bought an interest in the Lambert Tire Shop, 118 North Market Street.

P. T. Burk, Milford, Iowa, has sold his accessory business to E. C. Gran.

Wright-Chman Motor Co. has been organized at Cedar Rapids, Iowa, to distribute Maxwells in eight counties in that section of Iowa.

Fletcher Truck Co., Des Moines, has taken the agency to distribute Elcars in sixty-three Iowa counties.

Toozer-Gerspacher Motor Co., Omaha, has opened salesrooms in Des Moines and will distribute Dort cars for Iowa.

Martin Dale, Bode, Iowa, has bought the Bode Auto Co.

Jesse Breon, Hedrick, Iowa, has sold Thorne's garage to Clyde Meler.

Parks Brothers, Melrose, Iowa, have bought the Shepard & Cannon garage.

McCauley Motor Co., Iowa City, Iowa, has bought the Sidwell Motor Co.

Atlantic Auto Co., Atlantic, Iowa, will open a branch at Massena, Iowa.

## SOUTHWEST

Levy & Levy, Carrollton, Mo., will open the Battery & Auto Electrical Service Co.

Economy Tire Co., Marshall, Mo., C. H. Breedlove, proprietor, has opened for business, handling tires and automobile accessories.

National Motor Car Co., Kansas City, has leased a two-story building at 1727 McGee for five years at \$27,000. They have a capital stock of \$50,000.

B. D. Harreld, Burlington, Kan., has bought lots and will erect an addition to his garage and Ford service station.

Sinclair Refining Co., Clay Center, Kan.,

George Masterson, Mgr., will erect a new filling station at Fourth and Court streets.

Butler Motor Co., Butler, Mo., has opened for business in the automobile supplies and accessories business. The firm is composed of H. J. Travis, H. C. Terry and R. Bartholmew.

Cook's Auto Station Co., J. W. Cook, president, Kansas City, has leased a building at 1306-18 E. 15th Street for five years for \$12,000. They will conduct a garage and salesroom.

Ed. Arnold, Lawrence, Kan., is erecting a new modern garage on Massachusetts Street. He will have the Buick and Cadillac agency.

H. H. Mueller, Cape Girardeau, Mo., will erect a one-story, 74 x 149 garage, costing \$17,500, at Jackson, Mo. The F. M. Groves Motor Co., Cape Girardeau, will occupy the garage, dealing in Ford cars and repairing.

E. K. Porter, Tulsa, Okla., will erect a new garage at a cost of \$15,000. The building has not yet been leased.

C. O. Wilson, Kirwin, Kan., has opened a repairshop, specializing in Studebaker repairs.

Northwest Auto Paint Shop, Oberlin, Kan., has opened for business. L. J. Smith is proprietor.

C. D. Crane, Thayer, Mo., has purchased property and will begin the erection of a building for a supply shop.

## NEW GARAGES

O. L. Rosman.....Harlan, Iowa  
K. E. Young.....Diagonal, Iowa  
Standard Oil Co. (filling station),

Osceola, Iowa  
Ollie Crawford.....Belmond, Iowa  
William Widdle & Sons.....Dewar, Iowa  
Packard Tire Stores, 717 Pearl St.,

Sioux City, Iowa  
Roy E. Larson.....Forest City, Iowa  
Sammies Oil Corporation (garage and filling station).....Sioux City, Iowa  
M. L. Wheatley.....Belle Plaine, Iowa  
Posokony-Shimmers Auto Co. (50 x 130),

Pocahantas, Iowa  
Denison Storage Battery Co. (\$12,000),  
Denison, Iowa

Des Moines Amazon Tire Co.....Des Moines  
Duke Brothers.....Des Moines  
Albert Hansell.....Indianola, Iowa  
O. A. Bullock.....Bagley, Iowa  
Mahler & Son.....Bagley, Iowa  
Iowa Vulcanizing Co.....Ames, Iowa  
Stockdale & Hushka.....Bradford, Iowa  
Frank Augustine.....Dyersville, Iowa  
Mullen & Darrell.....Ogden, Iowa

Green Murphy.....Houston, Mo.  
Nichols & Mannel.....Clarence, Mo.  
J. N. Wilton (55 x 100 ft.).

Willow Spring, Mo.  
Willard & Werling.....Warrenton, Mo.  
Wilkinson Auto Co.....Kennett, Mo.  
Cashion & Strong (60 x 80 ft., \$1,000)

Perryville, Mo.  
F. H. Thwing.....Kansas City, Mo.  
T. S. Waddell (\$5,000 stock).Pierce City, Mo.  
Joe Feihler.....Perry, Mo.  
Richard Glotzbach.....Alma, Kan.  
White Way Garage.....Linn, Kan.  
William Rehels.....Douglas, Kan.  
Baker's Garage.....Clearwater, Kan.  
Claude Linn-Ralph Werntz..Huntsville, Kan.  
J. M. O'Brien.....Humboldt, Kan.  
Leonard P. Trower.....Wellsville, Kan.  
F. H. Norris (\$8,000).....Geneseo, Kan.  
G. R. Sager.....Vining, Kan.  
F. E. Dyer.....Ottawa, Kan.  
Homer Pointer.....Guymon, Okla.  
Hippel-Sheffield Co. ....Teague, Tex.  
Wayne Marshall.....Bentonville, Ark.  
Floyd Motor Co.....Paris, Tex.  
Square Deal Garage Co.....Hudspeth, Tex.  
F. M. Knott-J. A. Little (2-story, 150 ft),

Albany, Tex.  
C. G. Shoop & Co. (45 x 130)....Beloit, Wis.  
A. Devos (60 x 120),

18th St. and North Ave., Milwaukee, Wis.  
Spencer L. Johnson (78 x 132),  
Reedsburg, Wis.

Berlin Motor Service Co.,  
712 Wisconsin St., Berlin, Wis.

Lincoln Motor Car Co. (60 x 108),  
Third and Clark Sts., Milwaukee, Wis.

William C. Raue (90 x 50)..Watertown, Wis.  
M. Goes (30 x 130),

Green Bay and Concordia Aves.,  
Milwaukee, Wis.  
Chas. A. Honold & Co. (40 x 50),  
819 Pennsylvania Ave., Sheboygan, Wis.

## Jordan Making 15 Cars Daily

CLEVELAND, June 7—The Jordan Motor Car Co. has run up its production to 15 cars daily, with its entire output for the next 8 months sold in advance. The company will produce 4000 cars this year and hopes to have its new factory in operation by July 15. Work on the new plant is now underway.

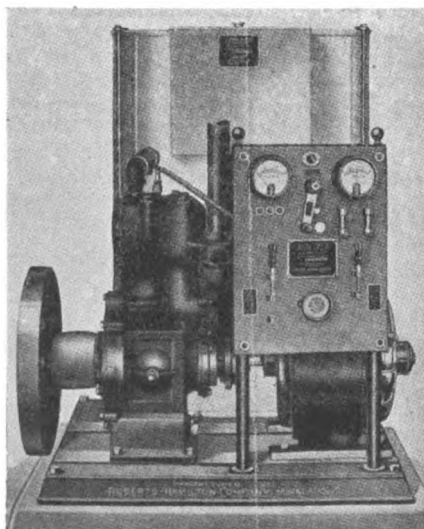
## Acason Building to Capacity

DETROIT, June 6—The Acason Truck Co. is producing from 20 to 23 trucks a day, which is plant capacity.

## ROHACO FARM LIGHT AND POWER PLANT

THE Roberts-Hamilton Co., Minneapolis, Minn., is making a Series "D" direct connected unit farm light and power plant, in which the engine is directly connected to the generator. These two units together with the switchboard are mounted on a base so that the entire plant with the exception of the batteries is in one unit.

The engine is fitted with ball bearings and is of the four cycle type and cooled by water. Either gasoline or kerosene can be used for fuel and the speed is governed by a fly-ball type throttling governor. The normal speed of the engine is 1200 r.p.m. Ignition is by means of a jump spark using a 32-volt system ignition. The engine is so constructed that a pulley can be placed on the fly-wheel and this can be used for operating other machinery or a line shaft



and the full capacity of the engine can be utilized for this purpose when desired.

The generator is a ball-bearing, four-pole unit of 1500 watts capacity. The commutators are large and the shaft revolves on ball bearings. There are four poles, four brushes, laminated pole pieces, open construction and a heavy starting torque for cranking the engine.

The switchboard embodies all the necessary instruments for successfully handling the electric plant. A voltmeter, ammeter, reverse current cut-out, fuses, end cell switch, self-starting switch, field rheostat and dynamo switch are among the accessories included with the board.

An option is given as to type of batteries, either Edison or steel glass cells being available.



# Rural Motor Express Will Pay

*But, Like Everything Else, There Must Be Careful Investigation  
First—Here's How One Man Started*

**R**URAL motor express routes will pay. Experience demonstrates that farmers like them and want more. Farm truck is delivered to the market far quicker and in much better condition by motor truck than by railroad.

The first thing to do is make a careful survey of surrounding territory. Map the proposed routes. See the farmers and find out how much produce they normally ship by railroad and from this get a line on how much the motor truck route could be expected to handle. Get the good will of the farmers. Sell them on the idea. Here's a letter from Ott Bros., Staunton, Ill., to F. W. Fenn who is in charge of rural motor express matters for the N. A. C. A.:

F. W. Fenn, Secretary,  
Rural Motor Express Committee.

In regard to business will say there is enough to pay us to start at once.

We wish to establish our line on sound business principles and wish to avoid disastrous competition.

In regard to the truck; we have a model "G" two-ton International Harvester Motor Truck, bought Nov. 1, 1918. It is equipped with enclosed cab, stake body 5½ ft. wide, 12 ft. long.

It is our intention to equip this truck with an enclosed body on the order of an interurban express car, 5 ft. wide, 5½ ft. high, 15 ft. long over all, loading from either side and rear end as this type of body offers the greatest convenience under all weather conditions.

Enclosed you will find an accurate drawing of the route over which we propose to operate. You may keep this for future reference. The operating cost of truck and business of motor express line per mile would be:

Ott Brothers Rural Motor Express Line

Main Office 222 E. Main St., 'phone 147.

Staunton, Illinois.

Effective March 3, 1919.

TIME CARD NO. 1

Subject to change without notice.

STAUNTON, ILL., TO ST. LOUIS, MO.

Leave Staunton.....	7.00 A. M.
Arrive Williamson.....	7.16 A. M.
Arrive Livingston.....	7.25 A. M.
Arrive Hamel.....	8.15 A. M.
Arrive Edwardsville.....	9.00 A. M.
Arrive Maryville.....	9.45 A. M.
Arrive Collinsville.....	10.10 A. M.
Arrive East St. Louis.....	11.30 A. M.
Arrive St. Louis.....	12.00 Noon.

Leave St. Louis.....	7.00 A. M.
Arrive East St. Louis.....	7.30 A. M.
Arrive Collinsville.....	8.50 A. M.
Arrive Maryville.....	9.15 A. M.
Arrive Edwardsville.....	10.00 A. M.
Arrive Hamel.....	10.45 A. M.
Arrive Livingston.....	11.35 A. M.
Arrive Williamson.....	11.44 A. M.
Arrive Staunton.....	12.00 Noon.

The above cost is based on the following conditions:

Roads.....Good or bad  
Weather.....Rain or shine  
Load.....4000 pounds or less  
Time.....10 hours for 2 men  
Goods hauled.....Subject to damage claims

Enclosed also you will find an operating sheet which I think comes close to the cost of operating our route between Staunton, Ill., and St. Louis, Mo. As to the charges, I just made a guess as I do not know what charges are made by the motor express lines. But at that we can make a little profit. Freight charge per 100 lb. or less from St. Louis, 50c, war tax, 2c, drayage, 15c—total, 67c.

Some time ago I sent a time sheet to your office which, according to your letter, I believe you did not receive. It is given above.

This card is for one truck to start one day and return the next.

Should two trucks be put in operation the time card would not be affected.—  
Max A. Ott.

## Des Moines Branch for Oakland

DES MOINES, June 7—The Oakland Motor Car Co. has opened a factory branch distributing headquarters at 1215

Locust Street, Des Moines. The branch will control practically all of the State of Iowa with the exception of the East and West tier of counties. H. H. Mayhaffey, who has been assistant manager of the Omaha branch, will be Des Moines' manager. The Ideal Auto Co., which has been local distributor for Oakland, will have quarters with the factory branch.

## Sheepshead Race Entries

NEW YORK, June 9—A program of four events, a 10-, 20-, 30- and 50-mile race, is scheduled for the Sheepshead Speedway on June 14. The 20-mile event is to be an invitation race for non-professional drivers. The entries received by the Contest Board of the American Automobile Association so far are:

Driver	Car
W. T. Comerford.....	Stutz
Eddie O'Donnell.....	Duesenberg
Dario Resta.....	Resta special
Joe Thomas.....	Mercer special
Louis Chevrolet.....	Frontenac special
Ira Vail.....	Hudson special
Denny Hickey.....	Stickel special
J. M. Reynolds.....	Frontenac special
Dave Lewis.....	Meteor special
Tommy Milton.....	Duesenberg special
Ralph DePalma.....	Packard special
Rene Thomas.....	Ballot
Albert Guyot or	
Louis Wagner.....	Ballot

## Operating Cost and Income of a Motor Express Line

### Income on First Class Express

Express charge 100 lbs. or less, per mile.....	\$0.01	Per 50 miles.....	\$0.50
Drayage charge 100 lbs. or less, per mile.....	.00½	Per 50 miles.....	.10
<b>Total 100 lbs. per mile...</b>	<b>\$0.01½</b>	<b>Total per 50 miles....</b>	<b>\$0.60</b>
Full load 4000 lbs. exp. per mile.....	\$0.40	Per 50 miles.....	\$20.00
Full load 4000 lbs. drayage per mile.....	.08	Per 50 miles.....	4.00
<b>Total per mile.....</b>	<b>\$0.48</b>	<b>Total per 50 miles.....</b>	<b>\$24.00</b>
<b>Total expense.....</b>			<b>17.43</b>
<b>Net profit.....</b>			<b>\$6.57</b>

### Operating Cost

Per mile	50 Miles		
Gasoline.....	\$0.04	\$2.00	
Oil and Grease.....	.01½	.25	
Tires.....	.02	1.00	
Depreciation.....	.01	.50	
Two men, labor 5 hrs. at 50c.....	.10	5.00	
Interest, tax, license, rent, repairs, office supplies, claims, other expenses...	.07½	3.68	
<b>Total expense per mile..</b>	<b>\$0.25</b>	<b>Total per 50 miles....</b>	<b>\$12.43</b>
<b>5 hrs. labor for 2 men unloading and reloading and inspecting truck.....</b>			<b>5.00</b>
<b>Grand total for 10 hours, 50 miles.....</b>			<b>\$17.43</b>



# Editorial Observation

## Misleading Advertising

**O**VERSTATING the facts in advertising copy has been one of the errors in the automobile industry. The fault has rested with the manufacturer who has not analyzed the selling possibilities of his product as fully as he should, and who in his uncertainty of opinion falls back on overstating the case in order to satisfy himself that he can sell the product.

Most frequently the distributor and dealer have, after the product has been sold, had to carry the burden of the overselling advertising campaign.

It is most unfortunate that overstatements in advertising should be made, and particularly when the burden of making good on the overstatements is passed on to a party who had nothing to do with making the overstatements.

Where a product has merit by virtue of design, materials, and manufacturing processes, there is no necessity for extravagant super-statements. Such befog the issue.

A case in question is that of a manufacturer introducing a new product into a relatively new field where he endeavors to prove that the product will never give trouble and that it will do business in every department of the field.

There have been some tractors sold which were advertised as being capable of doing every part of farm work, as well as road work. It did not require such extravagant statements to sell the tractor. Perhaps these statements made it easier to sell the first few tractors, but they made repeat business harder.

In selling tractors it is not necessary to declare that they will do every bit of farm work. In 99 per cent of the cases such a statement is false. The tractor can be a great paying investment to the farmer without having to perform the blanket function of doing every bit of farm work. The dealer who endeavors to sell a farm tractor as being capable of every bit of farm work is building a sales barrier instead of building a constructive highway of salesmanship upon which to carry his future business.

Take another case: The manufacturer of house lighting who declares that his unit never requires any attention and will do every bit of necessary farm work is sowing his wild oats of house lighting business. He has got to back water on that statement sooner or later. The farmer is not slow on finding out that carbon has to be removed and that certain portions of the electrical equipment has to receive attention and that other difficulties arise.

It was not necessary to declare that the outfit would never require attention or that it would do every farm job. There were more potent arguments for securing the farmers' attention.

In nearly every case a new product is almost invariably too broadly advertised. The manufacturer

thinks it capable of anything in the field. He has a blanket thought concerning its operations. It will do anything. It will function anywhere. Like the proverbial brook, it will go on forever.

The distributor or dealer has a right to use his influence against such super-advertising statements. He is the man who first must bear the brunt of these statements. He is the man whose pocketbook is first touched. Heretofore he has not interested himself sufficiently in the advertising of the product he has to sell. He has made an error in this regard. Not only has he passively stood back of the statements without knowing the facts in the case, but in some cases he has been guilty of equally extravagant statements.

The distributor or dealer should sanely study the product he is to sell. He should sanely study the selling arguments. He should sanely study the people to whom he is to sell the product. He should sanely study the field in which the product is to operate.

If he follows this course he will soon discover that it is not necessary to claim everything from heaven to earth for his product. He will soon discover that the greatest error he can make is to claim too much for his product. He will discover that his selling arguments will be stronger if he focusses his effort on the important considerations and does not spill all of his arguments at once. More sales are made by carefully selecting the suitable arguments and concentrating on them than by covering the earth, so to speak.

In the early days of the motor truck it did not make any difference whether the manufacturer built a 1-ton, 2-ton, 3-ton, or 5-ton truck. He advertised it as suitable for all lines of business.

The same mistake is to-day being made selling tractors. Too often the dealer wants to sell a tractor. Make the sale is his only objective. He forgets to think of repeat business. He wants to get the first tractor out. He succeeds and has months of leisure to repent for his foolish deeds.

Don't be afraid of refusing a sale. You make a friend when you prove to the prospective buyer that your particular equipment is not suitable for every case. You demonstrate you are a real man when you show you are not afraid to pass a sale to the man who has a product better suited to the job.

The same mistake has been made in a house-lighting field. There have been sets sold that were not suited to the job. These sales stopped rather than accelerated future business.

Keep the main objective of salesmanship always in mind, namely, always endeavor to give the man the product that is best suited to his requirements. Undersell the product rather than oversell it. Sell it on merit rather than on extravagant claims. Never be guilty of declaring that machinery does not require attention.



# The Motor World

# Gasoline Rate Chart

## A Ready Reference Table for the Garage and Supply Station Man

The vertical columns of black figures give the price per gallon in cents and the horizontal lines of black figures give the number of gallons. To find how much to charge for any number of gallons at a given price, run your eye along the top line of number of gallons, then down the nearest vertical column of prices. The price to be charged will be found in no case more than three numbers from the price per gallon. Where the result comes out in fractions of a cent, the table shows the next higher cent.

Cents per gal.	2	3	4	5	6		7	8	9	10	11	Cents per gal.	12	13	14	15	16	Cents per gal.
<b>25</b>	.50	.75	1.00	1.25	1.50	<b>25</b>	1.75	2.00	2.25	2.50	2.75	<b>25</b>	3.00	3.25	3.50	3.75	4.00	<b>25</b>
<b>25½</b>	.51	.77	1.02	1.28	1.53	<b>25½</b>	1.79	2.04	2.30	2.55	2.81	<b>25½</b>	3.06	3.32	3.57	3.83	4.08	<b>25½</b>
<b>26</b>	.52	.78	1.04	1.30	1.56	<b>26</b>	1.82	2.08	2.34	2.60	2.86	<b>26</b>	3.12	3.38	3.64	3.90	4.16	<b>26</b>
<b>26½</b>	.53	.80	1.06	1.33	1.59	<b>26½</b>	1.86	2.12	2.39	2.65	2.92	<b>26½</b>	3.18	3.45	3.71	3.98	4.24	<b>26½</b>
<b>27</b>	.54	.81	1.08	1.35	1.62	<b>27</b>	1.89	2.16	2.43	2.70	2.97	<b>27</b>	3.24	3.51	3.78	4.05	4.32	<b>27</b>
<b>27½</b>	.55	.83	1.10	1.38	1.65	<b>27½</b>	1.93	2.20	2.48	2.75	3.03	<b>27½</b>	3.30	3.58	3.85	4.13	4.40	<b>27½</b>
<b>28</b>	.56	.84	1.12	1.40	1.68	<b>28</b>	1.96	2.24	2.52	2.80	3.08	<b>28</b>	3.36	3.64	3.92	4.20	4.48	<b>28</b>
<b>28½</b>	.57	.86	1.14	1.43	1.71	<b>28½</b>	2.00	2.28	2.57	2.85	3.14	<b>28½</b>	3.42	3.71	3.99	4.28	4.56	<b>28½</b>
	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>		<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	
<b>29</b>	.58	.87	1.16	1.45	1.74	<b>29</b>	2.03	2.32	2.61	2.90	3.19	<b>29</b>	3.48	3.77	4.06	4.35	4.64	<b>29</b>
<b>29½</b>	.59	.89	1.18	1.48	1.77	<b>29½</b>	2.07	2.36	2.66	2.95	3.25	<b>29½</b>	3.54	3.84	4.13	4.43	4.72	<b>29½</b>
<b>30</b>	.60	.90	1.20	1.50	1.80	<b>30</b>	2.10	2.40	2.70	3.00	3.30	<b>30</b>	3.60	3.90	4.20	4.50	4.80	<b>30</b>
<b>30½</b>	.61	.92	1.22	1.53	1.83	<b>30½</b>	2.14	2.44	2.75	3.05	3.36	<b>30½</b>	3.66	3.97	4.27	4.58	4.88	<b>30½</b>
<b>31</b>	.62	.93	1.24	1.55	1.86	<b>31</b>	2.17	2.48	2.79	3.10	3.41	<b>31</b>	3.72	4.03	4.34	4.65	4.96	<b>31</b>
<b>31½</b>	.63	.95	1.26	1.58	1.89	<b>31½</b>	2.21	2.52	2.84	3.15	3.47	<b>31½</b>	3.78	4.10	4.41	4.73	5.04	<b>31½</b>
<b>32</b>	.64	.96	1.28	1.60	1.92	<b>32</b>	2.24	2.56	2.88	3.20	3.52	<b>32</b>	3.84	4.16	4.48	4.80	5.12	<b>32</b>
<b>32½</b>	.65	.98	1.30	1.63	1.95	<b>32½</b>	2.28	2.60	2.93	3.25	3.58	<b>32½</b>	3.90	4.23	4.55	4.88	5.20	<b>32½</b>
	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>		<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	
<b>33</b>	.66	.99	1.32	1.65	1.98	<b>33</b>	2.31	2.64	2.97	3.30	3.63	<b>33</b>	3.96	4.29	4.62	4.95	5.28	<b>33</b>
<b>33½</b>	.67	1.01	1.34	1.68	2.01	<b>33½</b>	2.35	2.68	3.02	3.35	3.69	<b>33½</b>	4.02	4.36	4.69	5.03	5.36	<b>33½</b>
<b>34</b>	.68	1.02	1.36	1.70	2.04	<b>34</b>	2.38	2.72	3.06	3.40	3.74	<b>34</b>	4.08	4.42	4.76	5.10	5.44	<b>34</b>
<b>34½</b>	.69	1.04	1.38	1.73	2.07	<b>34½</b>	2.42	2.76	3.11	3.45	3.80	<b>34½</b>	4.14	4.49	4.83	5.18	5.52	<b>34½</b>
<b>35</b>	.70	1.05	1.40	1.75	2.10	<b>35</b>	2.45	2.80	3.15	3.50	3.85	<b>35</b>	4.20	4.55	4.90	5.25	5.60	<b>35</b>
<b>35½</b>	.71	1.07	1.42	1.78	2.13	<b>35½</b>	2.49	2.84	3.20	3.55	3.91	<b>35½</b>	4.26	4.62	4.97	5.33	5.68	<b>35½</b>
<b>36</b>	.72	1.08	1.44	1.80	2.16	<b>36</b>	2.52	2.88	3.24	3.60	3.96	<b>36</b>	4.32	4.68	5.04	5.40	5.76	<b>36</b>
<b>36½</b>	.73	1.10	1.46	1.83	2.19	<b>36½</b>	2.56	2.92	3.29	3.65	4.02	<b>36½</b>	4.38	4.75	5.11	5.48	5.84	<b>36½</b>
	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>		<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	
<b>37</b>	.74	1.11	1.48	1.85	2.22	<b>37</b>	2.59	2.96	3.33	3.70	4.07	<b>37</b>	4.44	4.81	5.18	5.55	5.92	<b>37</b>
<b>37½</b>	.75	1.13	1.50	1.88	2.25	<b>37½</b>	2.63	3.00	3.38	3.75	4.13	<b>37½</b>	4.50	4.88	5.25	5.63	6.00	<b>37½</b>
<b>38</b>	.76	1.14	1.52	1.90	2.28	<b>38</b>	2.66	3.04	3.42	3.80	4.18	<b>38</b>	4.56	4.94	5.32	5.70	6.08	<b>38</b>
<b>38½</b>	.77	1.16	1.54	1.93	2.31	<b>38½</b>	2.70	3.08	3.47	3.85	4.24	<b>38½</b>	4.62	5.01	5.39	5.78	6.16	<b>38½</b>
<b>39</b>	.78	1.17	1.56	1.95	2.34	<b>39</b>	2.73	3.12	3.51	3.90	4.29	<b>39</b>	4.68	5.07	5.46	5.85	6.24	<b>39</b>
<b>39½</b>	.79	1.19	1.58	1.98	2.37	<b>39½</b>	2.77	3.16	3.56	3.95	4.35	<b>39½</b>	4.74	5.14	5.53	5.93	6.32	<b>39½</b>
<b>40</b>	.80	1.20	1.60	2.00	2.40	<b>40</b>	2.80	3.20	3.60	4.00	4.40	<b>40</b>	4.80	5.20	5.60	6.00	6.40	<b>40</b>
<b>40½</b>	.81	1.22	1.62	2.03	2.43	<b>40½</b>	2.84	3.24	3.65	4.05	4.46	<b>40½</b>	4.86	5.27	5.67	6.08	6.48	<b>40½</b>



# There's Money in Equipment If You Go After It

As a Dealer, You Are the Only Satisfactory  
Outlet and Source of Supply for the Car Owner

Cecil Dixon, who is sales manager for Hyslop Brothers, Toronto, gave his talk before a recent convention of dealers in that city. It is well worth reading.—EDITOR.

EVERY automobile dealer, automobile repairman and garageman should count on getting a large proportion of total income from the sale of automotive equipment, embracing accessories, tires and supplies for automobiles, trucks and tractors.

The season of 1919 offers greater opportunities than 1918, or ever before, because there are 70,000 more car owners and all the motor cars, after another driving season, require extra repair parts and supplies.

*As a dealer, you are the only satisfactory outlet and source of supply for the car owner.*

Writers and speakers have handed out much advice to dealers, telling how and what should be done to improve their merchandising methods, the handling and exhibiting of stock, in order to conserve and save more nickels out of every dollar's worth of sales, so that I fear some repetition, but will try to suggest briefly and pointedly specific methods that can be adopted to advantage.

Probably the biggest problem is sales, and sales depend on proper buying. This means you must anticipate and plan to have a sufficient assortment of stock to take care of your car owner customers' needs and give prompt service. If your present stock is low and you have not bought your spring stock, get on your toes at once, as otherwise you will be out of the running.

Prices on automotive equipment are likely to remain at present levels for the entire season. The firm with which I am connected has carefully searched the raw material markets and factories in Canada and the United States, but there is nothing whatever on the horizon to indicate a reduction in prices for at least the next six or eight months, and even then no sweeping changes are likely.

The trend of events in the next three or four months may give some indication of price possibilities for 1920 buying, but for the 1919 season we, as job-

bers and distributors, can find nothing to indicate any serious reduction in the price of goods we handle.

Every dealer should plan his buying in proportion to the number of each article he sold during the past season. This can be accomplished by keeping a sales record of each article, or you can get it from your invoices. *By keeping a simple stock record of the quantities of accessories sold during the season you can form a correct basis for buying for the following season.* You will know exactly the proper quantities to buy and the proper time to stock certain seasonable lines which have not a regular sale.

## Get On a Cash Basis

*ON a cash basis, the banker will lend more money on the strength of your financial statement and because such a position will enable you to pay for regular purchases and take advantage of any special opportunities—Dixon.*

When buying your stock, proper consideration should be given to the demand for such an article in your locality and the quantity limited to the extent of your ability to make quick turn-overs.

It is advisable to carry an assortment or complete line of accessories, but carefully avoid an over-stock of any one item, which costs money in the way of interest and discounts, soiled stock and other increased expenses.

*Over-buying and slow sales are the greatest enemies to the turn-over.*

Over-stocks tie up profits, and for the coming season the dealer can more safely plan to operate with a smaller quantity of each article of stock and buy oftener than during war time seasons.

## Buy with Care

In selecting the lines of accessories to put in stock, you should be guided by the wants of customers plus the total

car owners in your territory. Ascertain how many cars of each make. When you know how many Fords and how many Chevrolets and other makes are in your territory, you can better decide on proper quantities to buy.

Due allowance should be made for the number of customers controlled by your competitors, then you can fairly correctly determine sales possibilities and the quantities and kind of accessories to buy.

Buying should be in accordance with customers' and prospective customers' cars.

One special point, and that is: *Do not allow yourself to be stampeded by some salesman into buying heavily in order to get a price on some new fangled, untried device.* Better line up with some reliable jobber, who has a few years' experience in sorting out these new offerings and who handles most of the standard lines.

You can do a great deal at the present time to maintain a feeling of confidence on the part of customers and car owners. If the car owners find that you are

not buying goods, on the expectation of a decline in price, they on their part will refuse to buy for the same reason.

Many car owners have already overhauled their motor cars or will very soon start the buying stream and their needs must be supplied from some one. You can, to a large extent, create your sales market before the buyer arrives at your store.

More time and thought should be given to increasing sales by every possible legitimate method. One way is to keep your customers and prospective customers well supplied with reasons why he should buy your goods. Many car owners do not know the uses of certain articles or are not aware of the existence of certain articles.

This sales effort can take the form of *personal solicitation, catalogues, price sheets, circulars and other advertising and selling plans. Put into the heads*



*of your customers plenty of reasons WHY they should buy and you stand to get an order sooner or later.*

From the writer's experience with the retail business I am satisfied that the best time to sell accessories and extra supplies is the moment after the new car has been sold. The new car owner is delighted, or should be, and is in a very favorable mood to receive your suggestions that he provide a set of tire chains, tire irons, grease gun, hydrometer, set of extra bulbs, tools, bumper, spark plugs, jack, clock, seat covers, a can of oil and grease, wheel puller, spare tire, tire cover, fuse plug, mirror, cleaning materials and brushes, and many other articles that will suggest themselves.

#### Get on a Cash Basis

In case you are not doing so, the time is now ripe to put your repair bills and entire business on a cash basis. Your gross profit on accessories will average from 20 per cent to 35 per cent on sales, which will not provide for bad debts.

*On a cash basis the banker will lend more money on the strength of your financial statement and because such position will enable you to pay for regular purchases and take advantage of any special opportunities.*

You will also avoid many unpleasant interviews with customers in collecting unpaid bills. In order to purchase goods from the right markets and at the right prices, you require cash sales, as open unpaid accounts will not buy new, fresh stock.

It is also imperative that you sell at **FULL LIST PRICES**—no cut prices, discounts or other deductions—such as fitting or installing accessories without charge.

You should know how long it takes and how much it costs to fit or install accessories, even though you may not be equipped to do the work yourself. In almost every case the goods are worth the price that has been fixed on them and should not be sold at any other. Once you make a special or cut price on an article it is very hard to reinstate correct prices and not only is the profit on that special sale lost, *but the profit on after sales as well.*

If prices are cut on certain articles, prices must be raised on other articles to cover the loss. Then the buyer of the higher priced goods is not getting a square deal. Get your price and don't let your customer beat you out of a nickel here and there on the purchase of his motor car supplies.

In the long run, the dealer profits most who serves his trade the best. All customers should pay the same price and be treated alike. Up-to-date dealers practice the one-price policy and tag each article plainly showing the price.

That leads me to consider the actions of competitors. If you believe it necessary to sell goods at cut prices because of competitors' actions, then I recommend the need of trade co-operation with your competitors.

One of the outstanding lessons of the great war was the great advantages in

organization. For several years past all combines or organizations on the part of manufacturers, wholesalers and retailers were looked upon in most cases with suspicion. That was due largely to the fact that a few individuals have brought the name of "associations" into disrepute through the fixing of prices and throttling trade in various ways.

To-day most manufacturers, wholesalers and retailers realize that when they get together the most important or desirable thing is NOT to fix prices, but to *eliminate wasteful methods, to compare systems, exchange plans, arrange for road and highway improvements, discuss and promote better trade methods and incidentally raise by education and conference the status of any "lame duck" or inexperienced dealer, if there is one in your locality.*

A discussion along the lines of the cost of doing business will in most cases cure the price-cutting habit. Know your cost of doing business, and if your competitor is selling a standard article at a cut price, go to him in an open-minded way and show him where he is losing money and make him a friend.

There is no need for competitors to be enemies and fair competition means co-operation. Through co-operation much antagonism and suspicion can be wiped out by associations giving publicity to the objects of their organizations and the good which they are able to accomplish.

I understand that collective price fixing is not only unlawful but is considered unnecessary by associations. Go at it from the other point of view and educate your competitor by showing him how to find the gross profit on the sale of accessories and how to find his cost of doing business. By helping him arrive at the cost of doing business and facing the gross percentage of profit with naked eyes the incentive to cut prices is wiped out, as the net profit will certainly not permit him to stay in business and sell automobile accessories.

An association, either local or larger, can be of marvelous advantage in introducing many other reforms. When you join, be active, suggest and start something.

At one time or other nearly all get caught with an over-stock of a line of goods. Probably the local market will not absorb the goods, but through the medium of your association very often some other member can use the over-stock and will pay at least the cost price for it.

The association should work in this and similar ways.

I specially appeal for you to organize and associate with men of like purpose and the same line of business. The weakness of individual action and the result of co-operation will never be better exemplified than during the progress of the great war so nearly closed.

The necessity of properly displaying accessories is important. Show cases or sloping shelves are necessary. Take advantage of your windows. *Window space is the most valuable and nearly always the cheapest, advertising that you have.*

If you would care to read a detailed list of up-to-date garage methods, you can obtain free on request from any jobber in the Automotive Equipment Association a copy of a booklet on "How to Run a Garage."

This booklet is printed and circulated by the Assisting-the-Trade Committee of the Automotive Equipment Association of the United States and Canada.

The book is offered to the garagemen, not as a panacea for all ills, but detailed suggestions and opinions are given, formed from actual contact with garagemen and observation of their methods.

Its aim is to present the garage business from the same legitimate business standpoint that the merchant in other lines would use in approaching his problems of merchandising. The writer of the booklet deals with each and every phase of the garage and accessory business in a brief practical manner.

Better send for a copy and read it. You will be able to check up your present methods against this standard and see where you are right and where you may be missing something.

In conclusion, do not overlook the every-day-of-the-year stability of the accessory business. The average gross profit, the immense possibilities for present and future sales are worth your time and effort. The sales possibilities of your territory or locality can be visualized by multiplying the number of car owners by a minimum of \$60—the average yearly purchases of accessories per car owner—and this figure would not include tires or gasoline.

Observe, study and practice the methods of some of your successful neighbors who are retail merchants in other lines and you can be reasonably certain of making money and building a good business in the line of automotive equipment.

#### May Market "Liberty Fuel"

CHICAGO, June 7—Liberty Fuel, the special motor and airplane product developed by the Government for its war trucks and planes, and regarding which conflicting reports came from Washington early in the winter, is to be put on the market in large quantities within a short time according to former Major Zimmerman, who was instrumental in its development. The announcement came in a discussion of a paper on "The Design of Intake Manifolds for the Present Heavy Fuels" by F. C. Motk, engineer of Stromberg Motor Devices Co., presented to the June meeting of the Midwest Section, Society of Automotive Engineers, last night.

#### Wallis Tractor Resumes

RACINE, June 7—The Wallis Tractor Co. resumed operations June 2 with a large force and on a greatly increased production schedule, after being closed down for a month, during which time the entire plant was overhauled and final work done on important changes to increase the economy and efficiency of processes. The Wallis company from now on is operating on a straight 8-hour a day basis, without overtime.



# Departmentization

## *Is Running Joslyn's Business*

**N**O MATTER how small or how large your business is, you must divide it into departments if you are to increase your business and make it of maximum value to you.

If it is not departmentized it will always be one of the second-rate businesses of your town. Departmentization marks a business

as a leader. Create an organization that will operate in your absence. This will give you time to concentrate on the expansion of the business. You become a creator of a greater business and the watchdog over operations.—

*From MOTOR WORLD Summer Merchandising Number.*

**“W**HETHER I am the boss myself or whether these other fellows around boss me I never have been able to find out,” says J. S. Joslyn of the Joslyn Auto Co., Rockford, Ill. “Sometimes I wonder what I am doing around here at all, because I don’t find very much to do. All these other fellows do it for me. That’s what I get from departmentization and specialization.

“You see, the fellows in the car department go out and sell the cars and don’t tell me anything about it until after it’s done. My accessory man, who spends all of his time out among the farmers, does the same thing, as far as accessories, grease and oils are concerned. I have a special farm tractor man who puts his time in on tractors. I am now planning to put on farm lighting plants and am going to handle that in the same way. I have come to the conclusion that that is the only way the automobile man can handle these extra lines of merchandise and make them pay.

### All Through the Business

“We are carrying this idea of specialization or departmentization all through our business. Take the service department, for instance. Out of the dozen or more mechanics I have around here, I have selected three and am training them for special tractor service men.

“I also expect to have one or more of them trained for special service men on farm lighting plants when we get into that business again. I take it that the automobile dealer who goes into the tractor trade cannot do anything but hop to trouble the minute it happens on the farm. It is fair neither to the farmer nor to himself to rely upon the factory to send a man when a man is wanted. The dealer himself must have competent men who can handle anything that comes up in the business. For this reason I am training special men.

“Every Monday night in our shop we hold a special repair school. We have a lantern and a screen and project pictures of automotive equipment and handle repair problems in such a way that our men will know what to do when such matters come up.

“One night may be devoted to the care and maintenance of magnetos, another to carbureters and another to any other part of a tractor or a car which is likely to get out of order. In this way all our men are kept up on their toes and right up-to-date in the latest information on all mechanical repair matters. You have no idea how this increases the efficiency of our shop.

“This matter of tractor service is strictly up to us, and when the farmer wants it, he wants it quick. We can’t afford to hold him up while we are sending to the factory for somebody to come and help us out. We intend to take care of everything that happens on the tractors in our territory ourselves. In other words, we intend to be entirely independent of the factory on service matters.

“As a matter of fact we have gone into the tractor business to stay. We have demonstrated that we can make it a profitable department of our business if we handle it right, and by handling it right we mean taking care of our own service without exception. We have an idea, too, that this will add to our advantage not only in making our reputation solid with the farmers but in bringing us a greater compensation for the work we do.

“Notoriously the commissions are too low on tractors. We believe the factory should pay the dealer enough to make it worth his while. Most of the old companies are working upon the ancient idea that the service must come from the factory and the price of the machine must cover the expense of the service. Our idea is that if the dealer attends to the

service himself and relieves the factory from all responsibility he is entitled to a greater discount and that we are going to try to get.

“We are new in the tractor business and don’t know it all yet. We went into it last fall and up to the present time we have sold thirteen Case machines and the equipment that goes with them. From the present outlook this business on tractors and equipment, including the grain separators, which we also have taken on, will amount to about \$60,000 to \$70,000 this year. Handling as we are with a special department, we of course will make some money on this, but we are not going to make as much as we think we ought to.

“We are going to try to make our service so efficient that it will be so exclusively our own that we shall be entitled to a greater compensation. We believe that is the way to do it.

### Good Tractor Men Scarce

“One difficulty we all will encounter is the difficulty of getting good men to sell tractors. Such a man must understand farming and know how to approach the farmer in the right way. When we began we had a chap fooling around here whom we have developed into a tractor salesman. I put him out upon his own responsibility and told him to go to it.

“After working a week and not accomplishing anything he wanted to quit. I told him he had no business to quit as long as I didn’t kick, but to keep right at it. The second week he sold two tractors. That’s what you must do—get a man who you think can sell tractors and then make him stick to it. In the long run he will make good. Don’t be in too big a hurry, and don’t get discouraged if the results do not come immediately. We are convinced from our experience that we can make the tractor business pay if we handle it the way we have started.”



## TRUCK EXPEDITION IS STARTED ON ITS WAY

### St. Louis Dealers Start 45 Vehicles on 5-Day Tour of 375 Miles

ST. LOUIS, June 9—Forty-five trucks, comprising the St. Louis Motor Truck Expedition, left here at 6 o'clock this morning on a five-day tour of 375 miles through Northern Missouri and Western Illinois. The purpose of the expedition, as stated in literature, which will be dropped from a Curtiss airplane, is to demonstrate to the people along the route and the whole world that the "motor truck is a practical, useful, convenient and economical vehicle for the farmer and the merchant in the smaller town, that it will go and come and carry on your roads as well as on city streets."

"Ship by Truck" will be the slogan of the expedition. This will appear on arm bands worn by all members of the party and on signs on every truck entered. The entrants and the number of trucks each has, follow:

Traffic Truck Corp., Traffic, 2.  
Federal Truck Co., Federal, 2.  
Welling Motor Co., All American, 2.  
Auto Car Sales Co., Autocar, 1.  
B. F. Goodrich Rubber Co., Pierce-Arrow, 1.  
Weber Implement & Auto Co., Maxwell, 2.  
F. C. Meyer Motor Co., Republic, 3.  
Southwest Nash Motor Co., Nash, 2.  
Master Truck Agency, Master, 1.  
DeLuxe Automobile Co., Oldsmobile, 1.  
International Harvester Co., I. H. C., 3.  
General Motors Co., G. M. C., 2.  
Bethlehem Motor Sales Co., Bethlehem, 1.  
Goodyear Tire & Rubber Co., Packard, 1.  
Packard Motor Car Co., Packard, 5.  
Scudder Motor Truck Co., Service, 3.  
Dorris Motor Car Co., Dorris, 2.  
Rottersman Auto & Truck Co., Wheat tractor, 1.  
Midwest Motor Co., Clydesdale, 1.  
Aldrich-Stephens Motor Co., Dearborn, 3.  
Firestone Tire & Rubber Co., White, 2.  
Newell Motor Car Co., Paige, 1.  
Martin Motor Truck Co., Diamond T., 3.  
Denby, Fulton, 3.

The expedition expects to return to St. Louis either Friday night or Saturday morning. The course to be followed and schedule of stops follow:

#### Monday.

St. Louis to St. Charles—No stop.  
Wentzville—Lunch, 12 to 1.  
Troy—Stop, 2:30 to 3 p. m.  
Louisiana—6 p. m., supper and breakfast.  
Camp in City park.

#### Tuesday.

Hannibal—Noon. Park on levee, lunch with Chamber of Commerce, depart at 4 p. m.  
Quincy—Arrive 6 p. m. Supper and breakfast.

#### Wednesday.

Camp Point—Stop.  
Clayton—Arrive noon for lunch.  
Mount Sterling—Short stop.  
Rushville—Stop 2 to 4 p. m.  
Beardstown—Arrive 6 p. m., supper and breakfast.

#### Thursday.

Virginia—Stop 8 a. m. to 9 a. m.  
Jacksonville—Arrive noon for lunch. Depart at 1 p. m.  
White Hall—Short stop.  
Jerseyville—Supper and breakfast.

#### Friday.

Alton.

The educational features include the showing en route of motion pictures showing the benefits of good roads to the motorists, endurance runs, etc. Short talks on the possibilities of trucks will be made by a speakers' committee.

Robert E. Lee is commander in chief

of the expedition, and Preston W. Duffy, trainmaster in charge of movement and drivers. Others who go on the trip include Harry G. Moock, business manager, N. A. D. A.; C. E. Lightfoot, General Motors Co., chairman Commercial Car Bureau, St. Louis Automobile Manufacturers and Dealers Association; L. I. Amrine, Scudder Motor Truck Co., chairman of the committee in charge of the expedition; J. C. Magna, Federal Truck Co.; Frank Martin, Martin Truck Co.; Conrad Welling, Welling Motor Co.; C. A. Bothell, Packard Motor Car Co.; Alexis Steiner, Rottersman Auto & Truck Co., and C. A. Aldrich, Aldrich-Stephens Auto Co. These with the newspaper men required seven passenger cars.

The Curtiss airplane is the property of the Service Motor Truck Corporation.

### D. McCall White, Cadillac Man, Designing Car of His Own

DETROIT, June 9—D. McCall White, formerly vice-president of the Cadillac Motor Car Co., has opened a temporary office in Detroit. He is actively engaged in getting out preliminary designs for a new car which he is going to manufacture. The location of the plant in which it will be produced has not yet been definitely determined.

### Merge Two Kansas Dealers

WICHITA, June 9—Both the Packard Wichita Motor Co. and the Marshall Motor Co. of this city have been purchased by the H. G. Motor Co., St. Louis. This new company takes over the entire stock, shop equipment and accounts of the two companies and will distribute Chandler and Stutz cars in thirty-two Western Kansas counties. Officers of the new company are: general manager, J. O. Dennis; wholesale manager, Mr. Ketchum; retail manager, W. F. Groom; secretary, H. C. Alber.

### Truck Demonstration for Washington

WASHINGTON, June 7—The Washington Automotive Trade Association will hold a truck demonstration here June 28 to demonstrate the "Ship by Truck" movement. Contributions were made by the different agencies to provide for the necessary advertising and prizes. A large parade with a number of government trucks in line is expected.

### Hinkley Producing 5 a Day

DETROIT, June 7—The Hinkley Motors Corp. is now running approximately 5 engines daily. Owing to the delay the company does not hope to run more than 6000 engines this year, but anticipates running 15,000 in 1920.

### New Lewis Service Tray

YPSILANTI, MICH., June 7—The Lewis Geer Mfg. Co. is placing a new automobile tray on the market. It is 37 in. long, 22 in. wide, 3 in. from the floor on four roller bearing malleable iron casters. It has a neatly upholstered head rest and rack on each side for tools and is of mission finish. It sells for \$3.

## BOSTON DEALERS WORK UNDER CAR SHORTAGE

### Sixty to 90 Day Deliveries Promised—Used Cars Go- ing Very Well

BOSTON, June 9—Some idea of how the shortage of cars is affecting some of the dealers here is afforded by the operations of the C. S. Henshaw Co., dealer in Dodge Brothers cars. This company is booking orders for touring cars on a 60-day delivery basis and closed models on 90 days. Also there are three members of the sales force out scouting through New England trying to pick up used Dodge Brothers cars. On top of that they are advertising in the newspapers for used machines, yet cannot get enough.

R. R. Ross, who has the Fiat agency at Boston, has taken over the distribution of Columbia cars, which had been handled by the Utterback-Gleason Co., Dort distributor, for the past year.

W. H. Gleason of the Utterback-Gleason Co., has made two trips to Flint within a month, and on one shipment he got 280 cars and on the other he got 60, but they have all been disposed of as soon as they reached here.

Frank E. Sanders, for some years with the Winton branch at Boston, and later with an agency for cars at Worcester, has come back to Boston and he is a partner with A. V. Mann, in the Mann Motor Car Co., which has just taken on the Maibohm for New England, with salesrooms on Boylston Street. He is general sales manager of the new company.

The new company formed to handle the American six here comprises H. D. Dockery, president; M. T. Atwood, vice-president; A. D. Howard, treasurer, and A. L. West, secretary. Their temporary quarters are at 185 Devonshire Street until they can secure salesrooms on motor row.

F. O. Johnson, distributor of the Sterling trucks, has moved from downtown to 1031-33 Commonwealth Avenue, where he has salesrooms and service station combined.

The Walker-Johnson Truck Co., formed some months ago with a factory at Woburn, Mass., is now offering 2000 shares of stock to the public at \$50 a share to enlarge the facilities of the plant.

### To Build 150,000 Fordsons

DEARBORN, June 7—Henry Ford & Son will produce approximately 150,000 tractors during the fiscal year commencing June 1, 1919. The plant has been in operation 14 months, and on May 1, the date it closed down for inventory, it had made 53,078 tractors. Inventory work was completed June 1 and the company is now back in production. Approximately 100 tractors were run daily this week,



## N. A. D. A. STARTS FIGHT ON CAR CONFISCATIONS

### *Directors in Session Recognize Growing Menace and Move to Stop It*

ST. LOUIS, June 7—The confiscation of motor cars containing liquor in dry states by Federal Revenue agents was recognized as a growing menace to the industry by the directors of the National Automobile Dealers' Association, in session here Monday and Tuesday, and steps were taken to check it. The directors met at headquarters, 3124a Locust Street, and for the first time in the history of the association every director and officer was present.

The seriousness of the situation was made more apparent when it was considered that the whole nation soon will be under prohibition laws. It was developed that in a majority of cases the cars have been sold by the dealers on conditional bills of sales. The cars are either sold or destroyed after they are seized by the revenue agent. The dealer is thus deprived of his car, and he is unable in many cases to recover the balance due on the purchase.

A case in point has been upheld in the United States Circuit Court of Appeals in Georgia, although the dealer had no knowledge of the purpose to which the motor car was being used. Similar cases are pending in Colorado, Washington, Virginia and California.

The condition is made more serious by the fact that the Federal Reserve banks are considering a proposal to refuse to rediscount motor car dealers' commercial paper, when cars are sold on such conditional terms. It also has impaired ability of owners to insure their cars.

#### Will Help Georgia Dealers

A pledge of "adequate financial" support was made by the directors to the Georgia dealers who are fighting this case. It will be taken to the United States Supreme Court, and if lost there, the N. A. D. A. will work to have the law under which cars are confiscated repealed.

Resolutions pointing out the danger to the industry of the confiscation laws, outlining the plan of campaign against it, soliciting the National Automobile Chamber of Commerce to join with the dealers morally and financially in defending the Georgia case to the Supreme Court of the United States, and asking the Chamber to send a representative to the Georgia State Dealers' Association in Macon, June 6, to join with the representative of the N. A. D. A., in a pledge of the situation were adopted. The resolutions, as sent to the manufacturers, follows:

"The directors of the National Automobile Dealers' Association, meeting in St. Louis, submit:

"That whereas under Section 3450 of the Revised Statutes of the United States, the

revenue officers of Georgia, Virginia, Washington, Colorado, and the like have been confiscating motor cars in which liquor is carried, either upon which liquor federal revenue tax has not been paid or which is carried into dry territory in violation of provisions of the Reed amendment (the Bone-Dry Law) and selling such cars or destroying them.

"And that whereas, a number of these cars have been sold by the dealers under conditional bills of sale, and that

"Whereas, when cars so confiscated or thus sold, regardless of any knowledge on the dealers' part that such cars were to be used by purchasers for unlawful use, and that

"Whereas, as a result of such confiscation dealers are losing their motor cars; in many cases also the balance of money due on such cars, and that

"Whereas, because of such confiscation insurance companies are refusing to write theft insurance on such cars so sold conditionally and are withdrawing from many of the states, and

"Whereas, the Federal Reserve Banks are considering the refusal to rediscount dealers' commercial paper on such conditional bills of sale, such action threatening the security of the dealers' business and seriously impairing their ability to fulfill their obligations toward their manufacturers, and

"Whereas, after national prohibition becomes effective this condition now prevalent in the prohibition states will be prevalent over the entire United States, affecting every dealer and every manufacturer.

"Be it resolved that the directors of the National Automobile Dealers' Association pledge their financial support and the support of the machinery of their organization to defending a case now in the Circuit Court of Appeals of the United States, sitting in Georgia, and

"Be it further resolved that the National Automobile Dealers' Association respectfully solicit the National Automobile Chamber of Commerce to join with the dealers morally and financially in defending the Georgia case to the Supreme Court of the United States, that a precedent may be established for the entire country, and

"Be it further resolved that the National Automobile Chamber of Commerce send a representative to the Georgia State Dealers' Association meeting in Macon, June 6, to join with the representative of the National Automobile Dealers' Association in a pledge of the situation."

Alfred Reeves, general manager of the National Automobile Chamber of Commerce, replied to this as follows:

"Thanks for your telegram containing greetings and co-operation. You have the same thought from our car manufacturers. Met Congressman Fordney yesterday. He will try to arrange for meeting with you and others in attendance, but uncertain at this time. New rulings from Treasury Department on truck chassis and parts taxes given me at Washington mailed to you. Think they are highly helpful, thanks to efforts of your association and others."

#### Discuss Tax Repeal

The directors discussed methods to be pursued in obtaining the repeal of the 5 per cent tax on motor cars and parts and the 3 per cent tax on trucks. A telegram signed by all of the directors was sent to Senator King of Utah, commending him for introducing Joint Resolution No. 26, providing for the repeal of this section of the War Revenue Act. The telegram states that the directors "feel that the taxes on motor cars, trucks, parts and accessories levied in the act impose an unjust and restrictive burden upon the industry, that they impose a penalty upon the manufacture and sale of motor cars and trucks and endanger the welfare and the safety of 900,000 workers in the nation's third largest industry and impair the credit of more than one billion dollars invested in the industry."

The modified ruling of Internal Rev-

enue Commissioner Roper in respect to the truck chassis tax is still unsatisfactory to the directors of the N. A. D. A., and in a telegram signed by all of them they submitted to Roper:

"That Treasury Department ruling of June 3, modifying Article 15, regulations 47, that a 'chassis equipped provided with a super structure of such design that it is without substantial additions adaptable for hauling heavy loads is an automobile truck or automobile wagon and taxable at the rate of 3 per cent,' and that 'a chassis not so equipped is 'another automobile' taxable at the rate of 5 per cent,' is not just inasmuch as it ignores the fact that in trade usage the chassis is the unit of sale and universally disposed of by the manufacturer and dealer without any superstructure.

"It is further declared that the classification is unjust because of the impossibility of dealers furnishing their manufacturers with certificates of the purpose for which such trucks chassis are to be used, as dealers buy great numbers of chassis, which stand on their floors before disposed of to customers and that virtually in all of these instances the dealer would himself be unable to give the assurance demanded."

The association has asked local trade associations to protest against the modifications as issued and to ask that the decision be made on the basis suggested by the N. A. D. A.

Resolutions were adopted supporting the Townsend Federal Highway Commission bill, which purposes to create a national highway commission with jurisdiction over highways similar to that exercised by the Interstate Commerce Commission over railroads.

The association sent a protest to the Treasury Department against a Revenue Bureau ruling that whenever a dealer adds a part or an accessory to a motor car and sells the car and the added part on one bill that he is a "further manufacturer," and subject to a 5 per cent tax on his total sale price.

Two bills in Congress—one in the House and one in the Senate—providing for Federal control of the motor car in interstate commerce were indorsed.

It was reported that the association is working on a uniform motor car tax for adoption in all the states regulating, licensing, taxation, police regulation and liability for negligence and the like in the operation of cars.

Directors present were: F. W. Vesper, St. Louis, president; Harry G. Moock, St. Louis, secretary and business manager; W. J. Brace, Kansas City; P. E. Chamberlain, Denver; H. L. Robertson, Houston; Harry D. Austin, Seattle; A. E. Maltby, Philadelphia; George D. McCutcheon, Atlanta; J. A. Graham, Minneapolis; A. E. Mitzell, Canton; P. H. Greer, Los Angeles; E. W. Steinhart, Indianapolis, and Thomas J. Hay, Chicago.

John H. Johnson of Boston was named as director for the Eastern Division.

The directors will meet next in Denver in October.

#### Paige Production Now 75 Daily

DETROIT, June 7—May production at the Paige-Detroit Motor Car Co. averaged approximately 75 cars daily. The high mark was 110 machines in one day and the low mark 40. The normal capacity is 100, but this mark will not be reached before August. The company has orders for five times more cars than can be produced.



# News Letters From Busy Centers

## The Week in Philadelphia

PHILADELPHIA, June 7—Orders for passenger cars have been coming in so rapidly to dealers and distributors in this territory as to further embarrass some companies which are now far behind on deliveries and cannot see their way clear to catching up for months.

Take the case of the Ford Motor Co., which produces at the factory branch here 175 cars a day. Orders for closed cars, Louis Block, manager, said to-day, cannot be fully caught up with for nearly two years at the present production rate and the company is two months behind on filling orders for touring cars. The light truck chassis, without body, that is made here, is a trifle behind in deliveries.

Other dealers are from one to two months behind on orders for closed cars, roadsters and runabouts.

The sale of trucks continues quiet, generally. Whereas a few months ago the truck was the vehicle most in demand, interest has switched with emphasis to passenger cars and houses which never seriously considered taking on a line of passenger automobiles now are placing orders.

One instance of a concern which has taken on passenger cars for the first time is the Peters Engineering Co., which has just moved from 3202 Chestnut Street to Thirty-third and Chestnut Streets, where it is displaying the Davis. This concern hitherto has devoted its energies mainly to machinery and to automobile engineering, including welding.

The Philadelphia Garage Association is showing considerable activity in both business and social matters. At its latest meeting a committee was appointed, consisting of George G. Blind, the president; Charles E. Mieswinkel, Richard Lusse and W. Miller, to arrange for an automobile tour and outing at a resort near Reading, Pa., early in July. Members of allied trades, including men well known in the oil industry, will be guests. The memory of the "run" last summer, to Atlantic City, still is fresh in the minds of members and guests, and it is intended to have this year's outing exceed that of a year ago, in features and interest.

The garagemen have adopted a resolution to adopt a form of release which shall operate as an agreement between customers and garage owners that in case of theft of automobiles, or parts of automobiles left in charge of members, the members shall not be held responsible; except that in case of the payment of a special rate which will permit in-

surance against theft, the insurance money will be regularly paid.

The stand is taken that because of the increasing prevalence of theft from garages that the police seem unable to prevent or to remedy, it would be ruinous to garagemen to accept the responsibility for cars and car parts at the usual rate or fee. The attorney for the association will assist in drawing up the exact form to be adopted.

The association of garagemen also is establishing a bureau of information with regard to reliability of employees, the system of information to be free to members, who are expected to exchange reports which may be of value. This, it is believed, will add to the efficiency of the garagemen's service.

The Pressman Tire & Rubber Co., which has just been incorporated under the laws of the State of Delaware with \$3,000,000 capital stock, has purchased the properties at 250-254 North Broad Street as its permanent home, and arrangements have been made for distributing branches in all the principal countries of South America. The company's present quarters are at 300-302 North Broad Street.

The realty deal involves upwards of \$500,000, and the building acquired is three stories high and 183 ft. deep. Herman Pressman, president of the new owning company, is also general manager. William J. Ryan, a Philadelphia business man, is vice-president and sales manager; G. W. Manwaring is controller and office manager, and Michael F. Donahoe is general counsel. Included in the directorate is R. T. Moyer, an official of the North Penn National Bank. The company states that it controls the output of three factories, or a total of about 700,000 tires annually. Within the last ten days leases have been closed in New York, Boston, Baltimore and other Pennsylvania cities in addition to Philadelphia, for units in a nation-wide store system of retail tire distribution.

The Smith-Davis Machinery Co., Market Street, near Twenty-first Street, distributor in this territory for Bessemer motor trucks and Austin-Western road machinery, has taken on the Allis-Chalmers general purpose farm tractor, especially suitable for use on small farms and as a cultivator on larger tracts. Demonstrations started to-day, the first being held at Bustleton, where a large gathering of farmers witnessed the tractor's tryout. The tractors at present are stored on the Meadowbrook farm of the Smith-Davis Co., near Jenkintown, and

are taken from there on Bessemer trucks. Tours will next be made through New Jersey towns and farming localities. Implements accompany the tractors, drawn on other trucks.

Official announcement was made today that the consolidation of the Maxwell Motors and Chalmers Motor companies will provide for a corporation to have approximately 400,000 shares at no par value. Terms of the consolidation, it is announced here, call for the giving of 120 per cent in new stock for Maxwell first preferred; 60 per cent in new stock for second preferred, and 70 per cent in new shares for Maxwell common. Chalmers pre-

(Continued on page 44)

## Week in Des Moines

DES MOINES, June 7—Des Moines dealers are showing a keen interest in a campaign now on in Des Moines against reckless driving. During the past two weeks three small boys have been run down and killed, and the entire city has been roused. One of the daily papers has organized a committee of one hundred whose only aim is to eliminate reckless driving, and many dealers have already sent in their names for membership on this committee.

The Sears Co., Iowa's oldest dealer, has during the past week closed a contract to distribute the Jordan in thirty-two counties in the Des Moines territory. This is the first time that the Jordan has been handled in Des Moines.

The Oldfield Motor Car Co., Chevrolet distributor, this week signed a contract to distribute Munford tires for the entire state of Iowa.

T. R. Storey and the Jordan Brothers have opened the Mulberry Street Auto Co. at 1214 Mulberry street.

John W. Buck, pioneer Davenport, dealer has announced his retirement from the retail field. Buck entered the motor car business in Davenport nineteen years ago and for the past twelve years has continuously handled Packards. Mr. Buck plans within a short time to enter the automotive equipment field with his son.

## The Week in Kansas City

KANSAS CITY, June 1—Claude Records has been appointed assistant manager and L. S. Lemke office manager of the Kansas City branch of the Kelly-Springfield Truck Co. by branch manager Harry Crosbie.

James C. Stockwood, proprietor of the Stockwood Tire Co. at Independence, Mo., has taken on the distribution of the Old-



field tire. The sales and service rooms at 2301 Grand, formerly occupied by the Servis Tire & Supply Co., has been leased by Stockwood. The distributing territory includes Kansas City and Western Missouri. S. W. Reces, district manager of the Oldfield Tire Co., will make his headquarters at the new address. Sam Hudson, formerly with the Kelly-Springfield Tire Co., has joined the sales organization and the force will be increased in the near future, as the demand for the 8000 mile tire grows.

The O'Maley Tractor Sales Co. is moving this week to a new location on Walnut street.

William J. McNary, for 12 years with the Jackson Motor Co., has been assigned stock in that newly organized concern and becomes assistant manager.

J. P. Harper has succeeded E. R. Sandusky as manager of the Karshner Motor Co., Stutz distributor. Sandusky has been appointed manager of the Beggs Motor Car Company, manufacturers in Kansas City.

## The Week in Milwaukee

MILWAUKEE, June 7—Although the situation in regard to the supply of passenger cars has improved materially in the last three or four weeks, by reason of constantly increased production at the factories, the demand has grown so much faster that the shortage of cars remains acute. It is not a question of price, but of deliveries, dealers say.

The business of selling passenger cars at this time is merely a question of taking orders. The unexpended selling ability of dealers and salesmen is being diverted into new channels, those of making impatient buyers patient, and spreading an all too scant supply of merchandise over the greatest possible consumer area.

For the last 10 days or two weeks reports have been in circulation to the effect that a big drop in prices may be looked for on July 1. The main rumor was that at the beginning of the new era of peace manufacturers got together and agreed to maintain prices until July 1; that the agreement is about to expire and makers will scramble to see who can sell the lowest. Therefore, said Dame Rumor, wait until after July 1 to buy your car. Hudson's recent price reduction is pointed out by the rumor mongers as the straw which shows the way the wind blows.

Dealers who have heard these rumors say that there has not been any appreciable effect on trade, so far as they can ascertain. They are able to sell a great deal more cars than they can hope to get. Some people, they agree, may be holding off until next month, but no one would know it, judging from the situation. And, they add, it is an even bet that prices will go up or down July 1.

Motor trucks are moving in a satisfactory manner, although it is not nearly so easy to make sales of commercial vehicles as of passenger cars, if the comparison is fair. Truck dealers are not particularly pressed for deliveries, as a rule, although the supply is by no means such that there is a surplus of undue proportions.

Industrially, the automotive business is on the boom in Milwaukee and Wisconsin. Manufacturers of cars, trucks, bodies, frames, engines, parts, accessories and supplies are working at capacity. An important local development is the announcement of the decision of the Briggs & Stratton Co., one of the big makers of ignition devices and other parts and specialties, to double the size of

its plant at an estimated cost of \$500,000. The company will take over the motor-wheel department of the A. O. Smith Corp. and develop some new designs now perfected.

The stockholders of the Winther Motor Truck Co., Kenosha, Wis., will meet June 11 to consider recommendations adopted by the board of directors to issue \$1,000,000 of common stock to finance expansion. Present holders have signified their intention of taking virtually all of the proposed new issue.

Tractor manufacturers in Wisconsin are increasing production once more. A month or two ago it was found necessary to make slight limitations in order that stocks might work down. The wholly unfavorable spring season in the Middle West and other sections of the country restricted the demand and sales fell somewhat below expectations. Improvement in sales became so marked during the latter part of May and early in June that the check has been removed on output.

Arrangements for the sociability tour and "romp" of the Milwaukee Automobile Dealers, Inc., on June 27, 28 and 29, are going forward, and between 100 and 125 tradesmen have elected to participate. Announcement of the objective will be made shortly.

The Milwaukee Tire Dealers' Association is about to launch a co-operative advertising campaign along systematic lines to combat the effect of the competition offered by "curbstone" dealers and those merchandising stuff that is more or less junk under the guise of reliable goods. An official insignia, "Certified Dealer," has been adopted for use by members and for the purposes of the publicity drive.

R. E. Chamberlain, manager of the freight transportation department, Packard Motor Car Co., Detroit, spent several days in Milwaukee during the week to conclude arrangements for the local end of the four-day cruise of the Packard sales organization, which will be here June 17. The Milwaukee Automobile Dealers, Inc., will co-operate with the local Packard branch staff in entertaining the 1000 or more visitors, who will arrive at 10.30 a. m., on the steamer *Naronic*, and depart at 9.30 p. m.

Among ninety prominent business men of Milwaukee who participated in the seventeenth annual trade promotion tour conducted by the Jobbers' Division, Milwaukee Association of Commerce, June 2 to 7, were several representatives of the industry. Victor M. Stamm, manager of the Milwaukee interests of the U. S. Rubber Co., acted as a member of the executive committee. The party traveled in a special train and covered a route of 1000 miles during the week.

The Motor Sales Co., Main and Webster Streets, Madison, Wis., Hupmobile and Lexington, has opened a complete service station and repair shop at 20 North Webster Street.

The Darwin Garage, Grand View, Wis., has been taken over by Victor Wallin, formerly of the Kamm Garage, Ashland, Wis. The building will be enlarged. Mr. Wallin will specialize in Ford replacements and repairs.

The Rummele Auto Co., 706 Center Avenue, Sheboygan, Wis., will spend \$7500 in enlarging and remodeling its salesroom, garage and repairshop.

## The Week in Philadelphia

(Continued from page 43)

ferred will, it is said, get 90 per cent in new stock and Chalmers common 15 per cent. The new company will sell \$10,000,000 of convertible notes, which will be convertible into the new stock at a figure to be announced later. Proceeds of the sale of the notes, which are expected to be taken by a syndicate of local bankers, will be used to provide for the future expansion of the company's business.

A. S. Hetzell, formerly Cleveland district manager for the Republic Rubber Co., has been appointed manager of the Philadelphia district, with headquarters at 806 North Broad Street.

A new motor oil company has entered the field here. E. H. Freas and Malcolm H. Robertson, well known in automobile circles in Philadelphia, have gone into business for themselves, under the name of the Freas-Robertson Oil Co., making motor oils, to be marketed as "Fre-Bertson" oils. Robertson for 5 years was central city representative for the Vacuum Oil Co. and, until recently, head of the lubricating department of the Marshall-Wells Co. of Duluth, Minn.

Kane S. Green has been elected president of the Automobile Club of Philadelphia. H. Bartol Brazier has been re-elected vice-president, Howard Longstreth is treasurer and Eugene E. Hogle, who was named acting secretary during the year, is now secretary.

In an experiment to see if the difference between the cost of coal at the mines and that for which it is sold on the market cannot be cut, hauling of coal from the anthracite region of Pennsylvania direct to consumers in Philadelphia now is being tried. It is believed that coal can be hauled as cheaply, at least, by trucks as by railroad. When the coal transported by truck arrives at the city it will have the advantage of being transported directly to the consumer in the truck without rehandling. This will avoid the expense of dumping into dealers' yards, being scooped up and rehailed. The first coal to be hauled started yesterday from the T. D. Bergen mines at St. Clair, and the first car to leave with a load was a 5½-ton auto truck.

After two years' intensive service, the Motor Messenger Service Corps of this city has been demobilized. The corps was formed in April, 1917, the drivers were nearly all society women, and were the first of the many divisions of women in war work here to wear a uniform. During its service the corps drove its cars 39,415 hours, carried thousands of tons of freight, thousands of passengers and many influenza epidemic patients. The corps was merged with the Red Cross in June of last year.

The Mathews Carriage and Auto Co. has filed amended articles of incorporation changing the firm name to the Mathews Truck Body Co., and increasing the capital stock to \$75,000. Edwin V. Mathews is president of the company and R. G. Priebe, secretary.

M. M. Reno of Burlington, Iowa, has bought the interest of R. B. Leachman, in the Leachman-Lalbourne garage and in the



future this will be known as the Claibourne-Reno Co.

Ben Ginsberg, formerly connected with the Hawkeye Auto Salvage Co., has organized the Iowa Auto Salvage Co. and opened salesrooms at 309 East Walnut Street.

Ward Schooler, manager of the Schooler Rubber Co., who has been overseas with the Eighty-eighth Division, will return to civil life this coming week and upon his return will take over the entire quarters now occupied by his company and the Ideal Auto Co. at 1019 Locust Street.

The Iowa Vulcanizing Co. is enlarging its quarters at 1008 Locust Street.

W. A. Nunamaker and his son, F. L. Nunamaker of Cedar Rapids, have organized the Apperson-Nunamaker Co. and have taken the Apperson agency for Linn and the six adjoining counties.

R. C. DuBois of Mount Vernon, Iowa, who for nine years has been salesman for the J. I. Case Co., has joined the sales forces of the Buick Motor Co. and will travel in Northwest Iowa, with headquarters at Waterloo.

The Packard Tire Stores, Inc., this week opened a store at 626 Second Ave., Cedar Rapids, Iowa.

### Iowa Jumps Its Fees

DES MOINES, June 7—Owners of motor cars in Iowa this week got their first official announcement of what license fees would be under the laws passed by the recent session of the Iowa legislature. For those owners who had not taken time to figure out their fees the announcement comes something as a shock. The basis of the fee is one per cent of the valuation as fixed by the state executive council plus forty cents for each 100 lb. of weight. The State Highway Commission has figured fees on this year's standard models of some of the leading cars as follows: Buick, \$26.60; Cadillac, \$49.40; Ford, \$12 to \$16; Hudson, \$35.20; Dodge, \$20.60; Locomobile, \$71; Mercer, \$61; Overland, \$19.60; Packard, \$69; Paige, \$36; Peerless, \$41; Pierce-Arrow, \$82.40.

### Martin and Parry Companies Merged

INDIANAPOLIS, June 9—The Martin Truck & Body Corp., York, Pa., and the Parry Manufacturing Co., of this city, both commercial car body makers, have merged as the Martin-Parry Corp. John J. Watson, Jr., is chairman of the board, and other directors are: Guy E. Tripp, Westinghouse Electric & Mfg. Co.; James F. Shaw, Knauth, Nachod & Kuhne; F. M. Small, former president of the Martin Truck Co.; Robert I. Burr, S. C. Parry, Parry Manufacturing Co.; Walter R. Herrick, Herrick, Borg & Co.; and George R. Walbridge, Bonbright Co., Inc.

### Here Comes Henry's Street Car

DEARBORN, June 7—Within two weeks the first of Henry Ford's "street cars" with which he hopes to solve Detroit's transportation problem will be in operation. The big gasoline vehicle is nearing completion at the Dearborn tractor plant. C. J. Hall of Los Angeles, Cal., is aiding Mr. Ford in designing and construction work.

## NATIONAL SHOW DATES FOR 1920 ARE ADOPTED

### N.A.C.C. to Hold Both Car and Truck Shows in New York and Chicago

NEW YORK, June 9—The National Automobile Chamber of Commerce has definitely decided to hold the National automobile and motor truck shows in New York and Chicago next year. At a meeting of the directors of the N. A. C. C. last week it was decided to hold the New York car show in Grand Central Palace during the week of Jan. 3-10. The Chicago car show will be held in the Coliseum during the week of Jan. 24-31. It is planned to hold truck shows in both cities on the same dates.

The truck show in Chicago is to be held in the Drexel Pavilion in the stockyards section. No place has been chosen as yet for the New York truck show. Samuel A. Miles will again manage both shows.

### Sections for Montreal Association

MONTREAL, June 7—The attendance at the general meeting of the Montreal Automobile Trade Association last Monday evening for the purpose of organizing sections for dealers, accessory men and garage men respectively, was large, and the consensus of opinion was so strongly in favor of the proposed action that the decision was unanimously reached to proceed with the work of organization. Strong committees were appointed to carry out the intention of the members. Provisory committees for the three sections follow:

**Automobile Section**—U. H. Dandurancé, G. E. Ansley, C. Ginsberg, R. Geneux and L. M. Hart.

**Automotive Equipment Section**—A. Crowhurst, L. Gravel, W. D. Thurston, E. R. Fenwick, A. Renaud, J. A. Tuckwell and M. J. Hummell.

**Garage Section**—John Feeley, J. Gadbois, H. A. Degrace, L. H. Beaudet, H. Kennell-Webb, L. M. McNaughton and F. Courtemanche.

### He Passed Up \$200 of Trouble

"I CAN'T stir up trouble for \$200," says J. S. Joslyn, of the Joslyn Auto Co., Rockford, Illinois.

"Man came in here the other day and insisted on buying a tractor. I had never seen him before so I asked a few questions. Found he had only about 80 acres and they were cut up into small fields. Told him to go back home and forget all about it, that he didn't need a tractor. Why, that man couldn't use a tractor on a farm as small as that economically and if I sold him one he would find it out too and become a knocker. One dissatisfied tractor owner can spoil the tractor trade in a whole neighbor-

hood. It's good policy now and then to turn down an order. The margin on tractors is small enough in all conscience to take any chance. I feel I can't stir up trouble for \$200."

### Start Plant for Wills Car

PORT HURON, MICH., June 9—Work will start at once on the first three units of the automobile factory to be built hereby C. Harold Wills and John R. Lee, former Ford executives. The three units will each have a length of 1000 ft. Construction work will be pushed on a huge scale, and it is hoped to have a complete plant in production before fall.

It is expected that the new organization will announce the design of its proposed car within the next 60 days. Rumors state that the machine will sell at between \$1200 and \$2000 and will be a light six, embodying new features in body and motor design which will create a sensation in automotive circles. Wills said in Port Huron last week that he had been working on the car for several years and that experimental machines have been driven as high as 180,000 miles.

It is said that many of the ideas of the Hispana-Suiza car have been worked out and perfected by Wills and that he controls many of the American patents on the machine. It has been said that the new Wills motor, while a 6-cylinder engine, is so light that one man can almost carry it.

### Dealers Favor Single State Tax

WASHINGTON, June 7—A petition favoring the bill introduced by Congressman Fuller providing that any one found qualified to operate an automobile in one State will not be obliged to make additional registration or take out additional licenses or pay additional taxes when traveling on pleasure or business in other States was filed with Congress this week by the National Automobile Dealers' Association. The bill provides that the certificate of local officers of a State should be accepted in all States of the country as competent and sufficient evidence that the owner has complied with the laws and regulations of his residential State. It was referred to the Committee on Interstate and Foreign Commerce, as it is intended to regulate the interstate use of automobiles and all "self-propelled" vehicles using public highways for interstate commerce.

### Ignore Wage Increase Demand

BLOOMINGTON, June 7—Dealers who were served with a demand for an increase in pay from their mechanics, from 55 cents per hour to 75 cents, with a closed shop, have decided to ignore the request. The proprietors of the various repairshops believe that the price now charged car owners for repair work is about all that the trade will stand. The dealers will close their repairshops before they will accept the terms of the new scale.



# Resignations and Promotions Place Workers in New Places

## Prominent Tradesmen Assume New Duties

L. E. Lyons, who for the past several months has been acting as sales manager of the B. F. Everitt Co., has resigned to return to the Sheldon Axle & Spring Co., with headquarters in Detroit.

Fred W. McIntosh, formerly connected with the Overland factory, and also engaged in Y. M. C. A. work during the war period, has made connection with the Manbeck Motor Sales Co., Des Moines, and will travel Eastern Iowa.

W. W. Mountain, former head of the Flint Varnish & Color Works, Flint, Mich., is at the head of the Mountain Varnish & Color Works, a new Toledo enterprise which will make a specialty of automobile colors and varnishes.

C. P. Henderson, former director of sales of the Cole Motor Car Co., who resigned to become a district sales manager of the Cole and Lexington cars in San Francisco, has given up the Cole and will devote his entire time to the Lexington.

Miss Sarah Jelliffe, advertising manager of the S. C. Johnson & Son Co. for the last few years, has resigned and formed a connection with the Western Advertising Agency, where she continues to handle the Johnson account.

C. R. Kirkpatrick, recently superintendent of service for a sales and service firm, has returned to the Automotive school of the Detroit Institute of Technology and will resume the work, dropped several months ago, of instructor.

William T. Whitlock has severed his connection as assistant superintendent with the Flisk Rubber Co., Chicopee Falls. He has not made public his plans for the future.

F. W. McIntyre has been appointed sales manager of the Becker Milling Machine Co., Boston. For the past 16 years he was connected with the Niles-Bement-Pond Co., Boston.

O. D. Conover, formerly vice-president and chief engineer of the T. W. Price Engineering Co., New York, and production manager of the Ludlum Electric Furnace Corp., has resigned to become sales and production engineer on foundries and steel plants of the Austin Co., Cleveland.

F. W. Marshner has been appointed manager of the Detroit branch of the New Departure Mfg. Co., Bristol, Conn., succeeding the late Samuel B. Dusbabere.

L. D. Fljux has been appointed Detroit district representative of the automobile equipment department of the Westinghouse Electric & Manufacturing Co., with an office in the Kresge Building. T. G. Haugh will assist him.

### 1000 Perfection Heaters Daily

CLEVELAND, June 9—After taking over the assets and manufacturing facilities of the Perfection Heater division of the Standard Parts Co. in Cleveland, the Perfection Heater & Mfg. Co. has leased the greater part of a fireproof building at E. Sixty-fifth Street and Carnegie Avenue, where it will continue the manufacture of Perfection heaters. The

new concern is capitalized at \$300,000 and has increased production of heaters to 1000 daily, according to C. S. Pelton, vice-president and general manager. W. A. C. Smith is president; F. D. Kellogg, secretary and treasurer; E. L. Jones, special factory representative, and L. H. Peck is in charge of engineering and production. Pelton has been with the Perfection Springs and Standard Parts seven years, having been in charge of the Perfection Heater business the last four years. Jones has been with the Remy Electric and Standard Parts companies in sales capacities. Mr. Peck formerly was machine tool designer for the Foote-Burt Co. until he entered military service as a lieutenant.

### 12,713 More Cars in D. C. This Year

WASHINGTON, June 9—There are 12,713 more automobiles in the District of Columbia this year than in 1918, according to a report by the Superintendent of Licenses. During the last 11 months 38,878 license tags were issued as compared with 26,165 in the same period for the preceding year. There were but 34,347 tags issued during 1917-1918, less than the number in 11 months of this year.

### Expansion for Republic Truck

CLEVELAND, June 9—With all but one of its subsidiaries now in Cleveland, the Republic Motor Truck Co., capitalized at \$18,000,000, plans to center its industrial expansion in this city.

J. O. Eaton of Alma, Mich., made that statement in Cleveland, and he is first vice-president of the company and president of the Torbensen Axle Co. of this city, which is a subsidiary of the Republic company.

The Republic properties consist of the Republic Motor Truck Co., the Torbensen Axle Co., the Powrlock Co., which was brought to this city from Detroit some time ago, and the R. & P. Tractor Co., a subsidiary, which has been conducting tractor development in Alma, Mich. The latter activity is to be transferred to Cleveland as soon as practicable.

The Republic company some time ago acquired a tract of 76 acres east of Cleveland, and here the industrial expansion will take place. While no definite announcement has been given out, the present plan is to house the engineering, accounting, experimental, purchasing and service departments in downtown buildings. The executive offices of the Republic company are to be brought to Cleveland at once.

Better labor markets and more ade-

quate transportation facilities were two reasons given for the selection of Cleveland as the point where Republic holdings will be extended. It is thought the tractor development may be the first to be extensively worked out here.

The present daily output of 75 trucks will be increased materially, it was announced. Whether this means the erection here of factory units for truck manufacture is not known at this time.

### Boston-Portland Express Line

BOSTON, June 8—The Atlantic Motor Express has just been formed here to do a big intercity trucking business throughout New England with headquarters at both Boston and Portland, Me. It will establish connections in 100 New England cities and towns, and it has taken over some motor express companies now in operation.

The company plans to operate a fleet of Pierce-Arrow trucks which represent an outlay of \$250,000 and expects to do a business of \$1,250,000 a year. Already it has offices in 35 cities and towns in the territory. The backers of the enterprise comprise Linwood E. Porter of Portland, as president. Frank E. Rumeley, the vice-president, is a big contractor, and he is also interested in a shipbuilding company and a trust company. George Hendricks of Boston, secretary, is the head of the Kingston Press and Dover Bindery; and Frederick A. Nickerson of Portland, the treasurer, is a former Pierce-Arrow engineer and the agent for the line in Maine. Edward C. Walker is the manager of the Boston terminal. Buildings have been leased at 42-48 Hartford Street, Boston, and 72 to 76 Cross Street, Portland. The new company is putting out a stock issue of \$750,000 to finance the project.

### Oneida Truck Going Strong

GREEN BAY, WIS., June 7—The Oneida Motor Truck Co., in the 6 months or more since the end of the war, has more than doubled its production and increased its retail sales by 130 per cent. Business in May reached \$185,000, or \$70,000 in excess of the April volume. The business of November amounted to \$81,000, and the plant was engaged largely in the execution of a war contract for 1500 field kitchens and limbers.

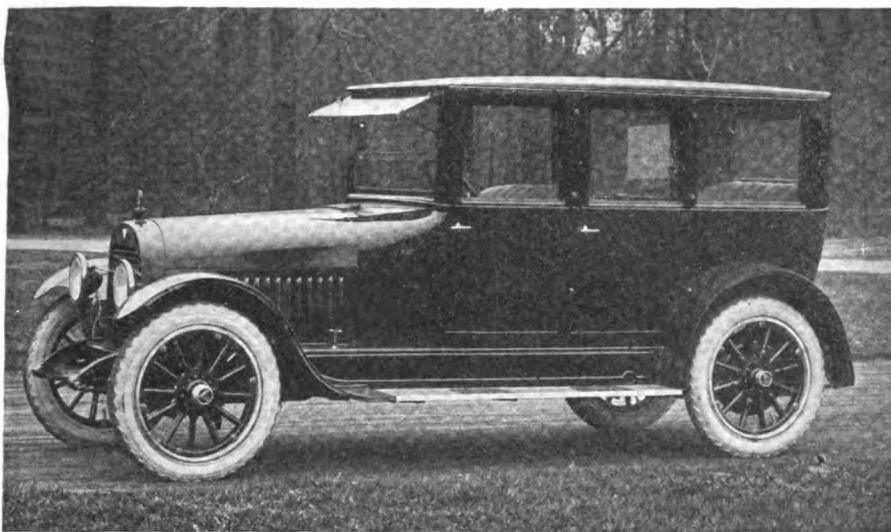
### Detroit Car Creditors to Meet

DETROIT, June 9—Creditors of the Detroit Motor Car Co. will hold a final meeting at 117 Ford Street, West, on June 25 to pass on the trustee's report showing property for distribution, etc., and offer for sale the balance of unpaid accounts receivable.

### Culto-Tractor Production Delayed

DETROIT, June 7—The Detroit Culto-Tractor Co., recently organized to market a light three-wheel gasoline farm tractor, will not be in production at least until September. The company recently purchased a garage and must rebuild it to make it suitable for production.





*This is the new Hudson Sedan, which is finished in dark blue except for the fenders and the upper parts of the body, which are black*

#### Tractor to Cross Continent

NEW YORK, May 29—A wheat tractor made by the Hession Tractor and Tiller Corp., Buffalo, started from Elmhurst, a suburb of this city, on a hike across the continent May 29. The tractor is convertible for road work by changing the drive wheels to rubber tired wheels and substituting chains and sprockets for the bull gears. This gives a road speed of about 15 m.p.h. This particular tractor draws a Rogers trailer fitted up with four bunks to accommodate the men who will pilot the tractor on its 3200 miles trip. Robert Loftus and Fred T. Ferrell are in charge of the expedition. Stops will be made along the route to demonstrate the ability of the machine at plowing.

#### International Harvester Buys Plow

CHICAGO, June 7—The International Harvester Co. has purchased the Chattanooga Plow Co., maker of chilled plows. The Chattanooga Plow Co. was formed 40 years ago and is being operated by the founders. Its plant covers about 3½ acres of a 7-acre site. The line of horse and power cane mills established by the Chattanooga company will be continued by the Harvester company.

#### Pennsylvania to Assist Users of State Routes

HARRISBURG, PA., June 7—Beginning Monday, June 9, the State Highway Bureau of Information will furnish to all the daily newspapers in Pennsylvania information filed each week by the fifteen district engineers in Pennsylvania, covering every detour in each district. The information will be as follows:

Location of detours; description and condition of detours, whether state highway, state-aid, township, or private road; the approximate date detour was placed, or is to be placed; and the approximate date of removal of detour.

Postcard reports to the State Department each week from the engineers also will furnish information of a more gen-

eral description as to detours. A large map has been prepared in the office of the department here, on which the various detours will be traced. In this way it will be possible for all motorists each Monday to clip from the newspapers information concerning all detours in the state. The Bureau of Information also will supply detour data to the motor clubs of Pennsylvania, many of which are preparing to place special bulletin boards in their headquarters. The department also has placed orders for metal detour signs which will point the proper roads.

#### More Capital for Parker

MILWAUKEE, June 7—Capitalization of the Parker Motor Truck Co. was increased from \$350,000 to \$500,000 in the form of additional preferred stock at the annual meeting of the stockholders of the company, Adam J. Mayor was re-elected president, and other officers are: vice-president, F. H. Parker; secretary-treasurer and general manager, L. L. Newton. Directors were re-elected.

#### American Knight-Motored Trucks

CHICAGO, June 7—The Highway Motors Co. has recently been incorporated to build American-Knight motored trucks in 3½- and 5-ton capacities. It has purchased the assets of the Motor Trucks, Ltd., Brantford, Ont.

#### Armleder Adds Salesmen

CINCINNATI, June 7—W. D. Thompson, formerly wholesale manager of the Lexington Colorado Auto Co., has joined the sales force of the O. Armleder Co. as western representative with headquarters in Denver. Jack Parker with the Oldsmobile organization for the past five years is also connected with the Armleder concern and Charles F. Ward, Providence, R. I., is covering Massachusetts and Connecticut for the company. C. B. Harvey will have charge of the Middle West with headquarters at Chicago.

#### Wilmington Trade Organizes

WILMINGTON, June 7—After various attempts, the automobile trade of Wilmington has finally formed a substantial business association, known as the Wilmington Automobile Trade Association. The following officers have been elected: President, W. A. Macdonald; vice-president, E. L. Bixby; secretary, E. C. Ulrich; treasurer, E. F. Merrick; directors, two from each branch of the trade, F. B. Norman, Herbert Smith, Edward Smith, Henry White, N. C. Howell, Clarence Walker, Harry C. Loose and J. A. Brannock, with F. B. Norman as secretary of the board of directors.

Some details as to future plans are yet to be worked out. Some want weekly meetings the year round as a sort of clearing house proposition, which is one of the aims of the organization, while others want meetings discontinued in summer.

The purpose is to solidify and harmonize the trade here, so as to co-operate along general business lines for the benefit of all. As this organization replaces the Wilmington Automobile Association, formed primarily to promote the annual shows, this latter function will be assumed by the new body, and already plans are in the making for next year's show.

#### Two New Ahlberg Offices

CHICAGO, June 7—The Ahlberg Bearing Co. has opened two new factory branches to take care of its customers in territories which were previously handled by distributors. One is located at 511 Westminster Street, Providence, under the direction of Harold F. Woodworth, who for some time previous to his entry in the service was in the employ of the Ahlberg Bearing company at the Boston office. The other office is in the City Bank Building, Kansas City. This office is under the management of Edward A. Hefferman, who has just returned from the Naval Aviation Service.

#### New Chevrolet Sales Zones

FLINT, MICH., June 7—The Chevrolet Motor Co. has just created seven new sales zones in the United States and one in Canada. This gives the company a total of fifteen sales zones in the United States and two in the Dominion. One of the new zones will have its headquarters in Chicago and another in Cincinnati, where the Chevrolet company is already operating factory retail sales branches. The wholesale departments in those two cities will start business Aug. 1. The Cincinnati department will be in charge of John Flynn, who was with the Baltimore branch for 4 years. H. H. Monday, for several years connected with the Washington branch, has been transferred to Chicago to handle the wholesale business there. While the Chevrolet company has been operating on a fixed schedule of 700 cars a day, this production is being exceeded almost daily, the average production for last week being 726 cars.



# COMING EVENTS

## Races, Contests and Tours

Travers Island, N. Y., to Greenfield, Mass.	June 12-13	Inter-city Reliability run.
*Sheepshead Bay, N. Y.	June 14	Speedway.
Atlantic City, N. J.	July 4	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	Speedway.
Hohokus, N. J.	July 4	Dirt track event.
Cincinnati, O.	July 5	Speedway.
Uniontown, Pa.	July 19	Mid-summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	Speedway.
*Middletown, N. Y.	Aug. 15	Dirt track event.
Elgin, Ill.	Aug. 22-23	Road race.
Sheepshead Bay, N. Y.	Aug. 23	Speedway.
Uniontown, Pa.	Sept. 1	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	Speedway.
*Allentown, Pa.	Sept. 27	Dirt track event.
Cincinnati, O.	Oct. 1	Speedway.
*Trenton, N. J.	Oct. 4	Dirt track event.
*Danbury, Conn.	Oct. 11	Dirt track event.

\*Tentative dates.

## Meetings

Pittsburgh, Pa.	June 12-14	Annual Convention of American Drop Forge Assn. and Drop Forge Supply Assn., William Penn Hotel.
Detroit, Mich.	June 16-19	Spring Meeting, American Society of Mechanical Engineers, Hotel Statler.
Philadelphia, Pa.	June 21	Annual Outing, Kugler's Mohican Club, Motor Truck Assn. of Phila., with the Phila. Auto Trade Assn., Automobile Accessories Business Assn. and the Camden Auto Trade Assn.
Ottawa Beach, Mich.	June 23-28	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-24	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

## Foreign Shows

Paris, France	Oct. 15	Grand Palais—International Automobile Manufacturer's Congress.
London, Eng.	Nov. 7-16	Olympia Exhibition, Society of Motor Manufacturers & Trades.

## Tractor Demonstrations

Wichita, Kan.	July 14-19	Automotive Committee of National Implement Assn.
Columbus, O.	July 28-29	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Piqua, O.	Aug. 1-2	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Fostoria, O.	Aug. 6-7	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Akron, O.	Aug. 12-13	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Aberdeen, S. D.	Aug. 18-22	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	Inter-Provincial Plowing Match and Tractor Demonstration.

## Shows

Greenville, S. C.	July 14-19	Agricultural Implements and Tractors. F. M. Burnett, General Manager.
Minnesota	Aug. 30-Sept. 6	State Fair.
Indianapolis, Ind.	Sept. 1-6	State Fair, Cars and Accessories, Indianapolis Automobile Trade Assn., John B. Orman, Manager.
Cincinnati, O.	Sept. 13-20	Ninth Annual, Music Hall, Cincinnati Automobile Dealers' Assn., H. K. Shockley, Manager.
New York, N. Y.	Jan. 3-10	Grand Central Palace, National Automobile Chamber of Commerce, S. A. Miles, Manager.
Chicago, Ill.	Jan. 24-31	Colliseum, Cars: Drexel Pavilion, Trucks: National Automobile Chamber of Commerce, S. A. Miles, Manager.

## 1920

New York, N. Y.	Jan. 3-10	Grand Central Palace, National Automobile Chamber of Commerce, S. A. Miles, Manager.
Chicago, Ill.	Jan. 24-31	Colliseum, Cars: Drexel Pavilion, Trucks: National Automobile Chamber of Commerce, S. A. Miles, Manager.

### Another Dealer Adds Planes

KANSAS CITY, June 9—The Hiatt Motors Co. has recently purchased twenty Curtiss airplanes, which are being delivered by express to the Kansas City salesrooms. Three of the planes have already been sold and an unusual amount of interest is being shown in the new adventure. The regular motor car salesmen are handling the sale of the planes for the present, until the industry grows

to larger proportions. A complete stock of parts is carried at the salesroom.

When the plane is purchased, it is delivered to the customer and the motor company's worries are over. It is up to the customer to find a pilot to teach him the rudiments of flying, but with the return of so many efficient flyers from service, this is an easy matter. Kansas City has also an organization of experienced flyers, which was formed to promote the aviation industry.

## Approve Projects For 11,350 Miles of Road

WASHINGTON, June 9—Projects for improving highways totaling 11,350 miles to cost \$108,295,329 and on which Federal Aid amounting to \$43,076,176 was requested have been approved by the Bureau of Public Roads to date. This includes 1188 projects, of which 813 miles have been completed at a cost of \$6,870,451, of which \$2,692,491 was paid in the form of Federal Aid by the Government.

### McGuire Carlisle Sales Head

STAMFORD, CONN., June 9—Clarence V. McGuire has been appointed general sales manager and advertising director of the Carlisle Cord Tire Co. Until now he has been vice-president of VanPatten, Inc., advertising agency. In entering the company he becomes a director of the organization and a member of the executive board.

### Oakland Branch Managers Meet

PONTIAC, June 7—Branch managers of the Oakland Motor Car Co. and resident managers of the General Motors Acceptance Corp. held their annual conference at the Oakland plant here last week. Those in attendance were (Oakland branch managers): O. F. Borkey, Chicago; W. H. Tracey, Cleveland; L. S. Shoup, Indianapolis; A. P. TenBrook, Kansas City; L. J. Brocking, Minneapolis; C. E. Wells, Philadelphia; C. E. Burton, Omaha; George W. Alger, Pontiac; H. E. Mahaffey, Des Moines; L. C. Bollinger, Spokane; Charles M. Brown, New York. The General Motors Acceptance Corp. managers were: R. F. Wiggand, Chicago; J. E. Curtis, Chicago; J. G. McCreary, Detroit; J. N. McMahon, general credit manager; Paul Fitzpatrick, vice-president and general manager; W. N. Albee, Detroit.

## NEW YORK STOCK EXCHANGE CLOSING QUOTATIONS, JUNE 7, 1919

	Bid	Asked
Fisher Body, com.	91	95
Fisher Body, pfd.	100	101
Goodrich, com.	83½	83½
Goodrich, pfd.	105½	106
Kelly-Springfield, com.	125	125½
Kelly-Springfield, pfd.	96	100
Kelsey Wheel, com.	56	58
Kelsey Wheel, pfd.	98½	99½
Lee tire	34½	35
Stewart Warner	94	99
Stromberg	61½	62½
U. S. Rubber, com.	118½	119
U. S. Rubber, pfd.	114½	115
Chandler	197	198
General Motors, com.	242½	243
General Motors, pfd.	94½	94½
General Motors, deb.	90	90½
Maxwell, com.	44½	45
Maxwell, 1st pfd.	81	81½
Maxwell, 2d pfd.	36½	36½
Pierce-Arrow, com.	64	64½
Pierce-Arrow, pfd.	107	107½
Saxon	12	12½
Studebaker, com.	116½	116½
Studebaker, pfd.	98	100
Stutz	72½	73
White	60	61
Willys-Overland, com.	39½	39½
Willys-Overland, pfd.	97	96



Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Flow Capacity
Alis-Chalmers	6-12	2,300	.....	W	2	LeRoi	43x47	G or K	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	44x66	G, K or D	G, K or D	3-4
Alis-Chalmers	10-18	4,800	.....	W	2	Own	25x77	G or K	G or K	2-3	Farquhar	18-35	16,000	.....	W	3	Own	46x88	G or K	G or K	3-4
Alis-Chalmers	18-30	5,300	.....	W	4	Own	44x66	G or K	G or K	3-4	Farquhar	25-50	19,000	.....	W	4	Own	47x88	G or K	G or K	6-7
Alis-Chalmers	14-28	4,800	.....	W	4	Own	45x66	G or K	G or K	3	Fitch	20-35	6,000	\$2,500	W	4	Climax	45x66	G, K or D	G, K or D	6-7
American	15-30	4,975	\$1,595	W	4	Beaver	44x66	G or K	G or K	2-3	Flour City	20-35	6,800	.....	W	4	Own	45x66	G or K	G or K	4-6
Appleton	12-20	4,900	.....	W	4	Buda	44x66	G or K	G or K	4	Flour City	20-35	10,000	.....	W	4	Own	45x66	G or K	G or K	4-6
Atlas	16-26	5,400	1,750	W	4	Waukesha	44x66	G or K	G or K	4	Flour City	30-50	14,000	.....	W	4	Own	47x88	G or K	G or K	8-10
Autman-Taylor	15-30	7,500	.....	W	4	Waukesha	44x66	G or K	G or K	4	Flour City	40-70	21,000	.....	W	4	Own	47x88	G or K	G or K	8-10
Autman-Taylor	22-45	12,500	.....	W	4	Own	44x66	G or K	G or K	4	Flour City	12-20	2,700	.....	W	4	Gray	44x66	G or K	G or K	2
Autman-Taylor	30-60	23,000	.....	W	4	Own	44x66	G or K	G or K	4	Flour City	8-16	3,500	.....	W	4	Erd	44x66	G or K	G or K	2
Autman-Taylor	3-10	750	.....	W & C	1	LeRoi	43x47	G or K	G or K	1	Frank	12-25	5,800	1,275	W	3	Waukesha	43x63	G or K	G or K	2
Austin	15-30	4,500	.....	W & C	2	Buffalo	44x66	G or K	G or K	2-3	Fulton	12-25	2,500	.....	W	3	Waukesha	43x63	G or K	G or K	2
Austin	21-40	4,500	.....	W & C	2	Assoc. Mfrs	44x66	G or K	G or K	4-6	Giant	30-60	24,000	.....	W	4	Own	48x100	G or K	G or K	10
Avery	5-10	550	.....	W	2	Automatic	44x66	G or K	G or K	4-6	Giant	50-75	30,000	5,000	W	4	Waukesha	47x88	G or K	G or K	12
Avery	8-16	4,900	.....	W	4	Own	18x44	G or K	G or K	2	Gile	12-22	4,200	1,375	W	4	Own	43x63	G or K	G or K	3
Avery	12-25	7,500	.....	W	4	Own	46x88	G or K	G or K	2-3	Go F.	14-28	4,250	1,458	W	4	Waukesha	44x66	G or K	G or K	3
Avery	14-28	6,800	.....	W	4	Own	44x66	G or K	G or K	3-4	Gray	18-36	6,000	2,250	Dr	3	Waukesha	44x66	G or K	G or K	3-4
Avery	15-36	9,250	.....	W	4	Own	44x66	G or K	G or K	4-5	Hackney	12-20	2,800	.....	W	4	Field	43x63	G or K	G or K	4
Avery	25-50	22,000	.....	W	4	Own	46x88	G or K	G or K	4-5	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Avery	40-80	42,000	.....	W	4	Own	46x88	G or K	G or K	4-10	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Bates Steel Oil	15-25	4,000	.....	W	4	Own	44x66	G or K	G or K	4	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Bates Steel Oil	15-12	4,500	.....	W	4	Erd	44x66	G or K	G or K	4	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Bean Track Pul	6-10	3,100	.....	C	1	LeRoi	44x66	G or K	G or K	1	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Beeman	11-4	255	.....	C	1	Own	14x43	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Bellair	12-20	4,500	.....	C	1	Waukesha	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Boring	20-30	3,500	1,185	W	3	Waukesha	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Boss	15-30	6,900	.....	W	4	Waukesha	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Brill	20-40	7,600	.....	W	4	Model	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Brill	12-22	4,900	.....	W	4	Field	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Bull	12-24	5,000	1,200	W	3	Toro	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Capital	15-36	4,000	1,500	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Capital	20-30	4,000	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	10-18	2,500	1,325	W	3	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	15-37	5,700	1,325	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case	20-40	5,700	2,000	W	4	Own	44x66	G or K	G or K	2-3	Hackney	12-20	2,800	.....	W	4	Climax	46x88	G or K	G or K	4
Case																					

ABBREVIATIONS.—"W" Wheel. "Dr" Drum. "G" Gasoline. "K" Kerosene. "D" Diethylene. "low capacity varies in relation to operating conditions. Figures are based on 14 in. plows.

ABBREVIATIONS.—"W" Wheel. "C" Crawler. "Dr" Drum. "G" Gasoline. "K" Kerosene. "D" Distribute. Flow capacity varies in relation to operating conditions.

ABBREVIATIONS.—"W" Wheel. "C" Crawler. "Dr" Drum. "G" Gasoline. "K" Kerosene.

ABBREVIATIONS.—"W" Wheel "C" C

ABR



# Trucks

Name and Model	Tires	Capacity	Price	Cylinder	Final Drive	Name and Model					Tires	Capacity	Price	Cylinder	Final Drive	Name and Model					Tires	Capacity	Price	Cylinder	Final Drive																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						Tires	Capacity	Price	Cylinder	Final Drive						Tires	Capacity	Price	Cylinder	Final Drive						Tires	Capacity	Price	Cylinder	Final Drive																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
A & B	3T 3	3	4833	4833	4833	W	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7	36x7</



## MERCHANDISING SPECIFICATIONS

**THE** tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

**The tables will be corrected and revised down to date every week.**

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.



Model										2-5-7- Starting Ignition Lighting WB Tires Rims Pass. Pass. Sedan																				
Model										2-5-7- Starting Ignition Lighting WB Tires Rims Pass. Pass. Sedan																				
ALLEN Series 41	4-31x5 Conn	A-Lite	112	32x3 SS	.....	\$1196	.....	\$1096	.....	FRANKLIN 9B	6-31x4 A-Kent	Dyneto	115	33x4 SS	\$2400	\$2450	\$2450	\$3350	OAKLAND 4-B	6-24x4 1/2 Remy	Remy	112	32x4 SS	\$1075	1075	.....	1650			
AMERICAN B	6-31x5 A-Kent	West	122	32x4 SS	\$1835	1765	\$1865	.....	GRANT G	6-3 x4 Remy	Wagner	114	32x3 1/2	.....	1120	1120	.....	1645	OLDSMOBILE	8-21x4 Delco	Delco	120	34x4 SS	.....	\$11700	\$1700	.....			
AMERICAN BEAUTY	6-31x5 Q&D	G&D	121	33x4 SS	.....	2000	.....	.....	HANSON	6-31x4 A-Lite	A-Lite	119	32x4 9/16	.....	.....	1685	.....	1895	OLDSMOBILE	6-21x4 1/2 Remy	Remy	112	32x4 SS	\$1295	1295	.....	1895			
ANDERSON 400-A-E	6-31x4 Conn	Waths	120	33x4 SS	.....	1675	1750	2550	A-1	4-31x5 A-Kent	Remy	106	30x3 1/2	.....	1695	995	.....	.....	OLYMPIAN	4-31x4 Conn	A-Lite	112	32x3 1/2	.....	1240	1240	.....			
ANNIVERSARY	6-31x4 Conn	Waths	120	33x4 SS	.....	1675	1750	2550	46	6-31x5 Remy	L-N	127	34x4 SS	.....	12485	.....	2485	3350	OVERLAND	4-31x5 Conn	A-Lite	106	31x4 C	.....	985	.....	1495			
APPERSON	8-31x5 Remy	Bijur	130	34x4 SS	.....	14000	.....	4000	206	12-21x5 Delco	L-N	127	34x4 SS	.....	.....	12485	.....	2485	3350	OWEN-MAGNETIC	6-31x5 Remy	G & D	117	33x4 SS	\$1555	1555	.....	6500		
AUBURN	6-31x4 Remy	Remy	120	33x4 SS	.....	11695	1695	.....	HOLLIER	6-31x4 Remy	Splitdorf	114	32x4 SS	.....	.....	1785	.....	.....	PACKARD	6-4 x5 Bosch	Own	142	35x5 SS	.....	.....	.....	.....			
6-39-H-K	6-31x4 Remy	Remy	120	33x4 SS	.....	11695	1695	.....	HOLMES	6-31x4 Esmanu	Dyneto	126	34x4 SS	.....	.....	2000	3000	.....	3-35	12-3 x5 Delco	Bijur	128	35x5 QD	.....	4500	4500	.....			
BELL	4-31x4 A-Kent	Dyneto	114	31x4 QD	.....	1145	1145	.....	HUDSON	6-31x5 Delco	Delco	124	35x4 SS	.....	.....	12075	1075	2775	PAIGE	6-31x5 Remy	Remy	127	35x4 SS	.....	12165	2060	2050			
BIDDLE	4-31x4 A-Kent	Dyneto	114	31x4 QD	.....	1145	1145	.....	HUPMOBILE	4-31x5 A-Kent	Waths	112	32x4	.....	1335	1335	.....	2135	PATERSON	6-31x5 Delco	Delco	120	32x4 C	.....	11595	1595	1625			
BRISCOE	4-31x5 Esmanu	G & D	121	32x4 QD	.....	3000	2100	12750	4400	JONES	6-31x5 Remy	Waths	126	34x4 SS	.....	2100	12450	2100	.....	6-46	6-31x4 Delco	Delco	120	32x4 C	.....	11595	1595	1625		
BUICK	4-31x5 Conn	A-Lite	104	30x3 C	.....	885	885	.....	JORDAN	6-31x5 Remy	Waths	126	34x4 SS	.....	2100	12450	2100	.....	56	8-31x5 A-Kent	A-Lite	125	34x4 SS	.....	12760	.....	2760			
H-44-47	6-31x4 Delco	Delco	118	32x4 SS	.....	1495	1495	.....	KING	6-31x5 Delco	Bijur	127	32x4 SS	.....	.....	12475	2475	3500	.....	PIERCE-ARROW	6-41x5 Bosch	Waths	142	35x5 QD	.....	6400	6400	6500		
H-46-50	6-31x4 Delco	Delco	124	34x4 SS	.....	.....	1785	2585	.....	8-3 x5 A-Kent	Bijur	120	34x4 SS	.....	2150	3250	2150	3100	.....	6-41x5 Bosch	Waths	142	35x5 QD	.....	6400	6400	6500			
HILLIAC	8-31x5 Delco	Delco	123	35x5 SS	.....	3220	13220	3220	4090	KISSEL KAP	6-31x5 Remy	Remy	124	32x4 SS	.....	.....	.....	.....	.....	6-31x5 Delco	Delco	120	32x4 SS	.....	11600	1550	.....			
57	8-31x5 Delco	Delco	123	35x5 SS	.....	3220	13220	3220	4090	Custom Buick	6-31x5 Remy	Remy	124	32x4 SS	.....	.....	.....	.....	.....	6-31x5 Delco	Delco	120	32x4 SS	.....	11600	1550	.....			
CASE	6-31x5 Waths	Waths	125	35x4 SS	.....	12100	.....	2100	.....	KLINE KAP	6-31x4 Conn	Waths	121	33x4	.....	1865	1865	11865	2690	.....	6-31x5 Delco	Delco	120	32x4 SS	.....	12585	2585	3585		
CHALMERS	6-31x4 Remy	A-Lite	117	32x4 SS	.....	1565	1565	.....	LEXINGTON	6-31x4 Conn	Waths	122	34x4 SS	.....	.....	1785	1785	2850	.....	6-41x4 Remy	Remy	120	34x4 SS	.....	1395	1395	.....	2175		
6-30	6-31x4 Remy	A-Lite	117	32x4 SS	.....	1565	1565	.....	LIBERTY	6-31x4 A-Kent	Wagner	115	32x4 SS	.....	1570	11720	1570	2640	.....	4-41x6 Bosch	Waths	131	32x4 SS	.....	3850	3850	3850	.....		
CHANDLER	6-31x5 Waths	Waths	123	33x4 SS	.....	11795	.....	1795	.....	LOCOMOBILE	6-41x5 Berling	Waths	142	35x5 QD	.....	16700	46000	6600	.....	6-31x5 Bosch	Bijur	128	32x4 SS	.....	2675	2675	2775	3450		
CHEVROLET	4-31x4 Remy	A-Lite	102	30x3 C	.....	715	735	.....	MADISON	6-31x5 Remy	Remy	115	33x4 SS	.....	.....	1550	.....	.....	.....	6-21x4 Remy	Wagner	112	32x3 SS	.....	11195	1195	.....	.....		
490	4-31x4 Remy	A-Lite	102	30x3 C	.....	715	735	.....	MAIBOEHM	6-31x4 A-Kent	Wagner	116	32x3 SS	.....	.....	1290	.....	1890	.....	6-31x4 Delco	Delco	118	32x4	.....	.....	1695	.....	.....		
FB	4-31x4 Remy	A-Lite	110	33x4 SS	.....	1110	1135	.....	MARMON	6-31x4 A-Kent	Wagner	116	32x3 SS	.....	.....	1290	.....	1890	.....	6-21x4 Remy	Remy	112	32x4 SS	.....	1295	1295	.....	1985		
8-34	8-31x4 Remy	A-Lite	120	34x4 SS	.....	.....	1685	.....	MAXWELL	6-31x5 Bosch	Bijur	136	32x4 QD	.....	13650	3900	3950	5750	.....	6-21x4 Remy	Remy	108	30x3 C	.....	.....	990	.....	.....		
COLE	8-31x4 Delco	Delco	127	33x5 SS	.....	2595	12595	2595	3995	McPARRAN	6-41x5 Bosch	Waths	136	35x5 QD	.....	4300	14500	4300	5600	.....	6-4 x5 Bosch	Waths	039	33x5 SS	.....	5000	15000	5000	7200	
COLUMBIA	6-31x4 A-Kent	W.Land	115	32x4 SS	.....	11745	1600	.....	2445	MERCER	4-31x4 A-Kent	Simms	109	30x3 C	.....	.....	895	895	.....	1565	.....	6-4 x5 Bosch	Waths	039	33x5 SS	.....	5000	15000	5000	7200
D-C&S	31x5 Delco	Dyneto	125	33x4 SS	.....	.....	1685	.....	.....	MUTCHELL	4-31x4 Berling	Waths	132	32x4 SS	.....	4260	14500	4260	.....	.....	6-31x5 Dixie	Waths	127	34x4 SS	.....	2760	12760	2760	3600	
COMET	31x5 Delco	Dyneto	125	33x4 SS	.....	.....	1685	.....	.....	E-40	6-31x5 Remy	Remy	120	32x4 SS	.....	11475	1475	.....	2175	.....	2-4 x5	.....	.....	.....	.....	.....	3450	4950	.....	
CROW-ELKHART	4-31x5 Conn	Dyneto	115	32x3 SS	.....	1095	1095	11155	1445	MOLINE-KNIGHT	4-31x5 Conn	A-Lite	118	24x4 SS	.....	12000	2000	.....	1675	.....	4-31x5 Remy	Remy	125	34x4 SS	.....	12250	2250	2475	3750	
CE-36	6-31x5 Conn	Dyneto	116	33x4 SS	.....	1295	1295	11365	.....	MONITOR	6-31x5 Conn	A-Lite	122	25x4 SS	.....	12500	.....	.....	.....	.....	6-31x4 A-Lite	A-Lite	122	32x4 SS	.....	1775	1850	11775	.....	
CUNNINGHAM	8-31x5 Delco	Waths	132	35x5 SS	.....	14950	4750	4950	.....	MONROE	6-31x4 Dyneto	.....	117	32x4	.....	1475	.....	.....	.....	.....	4-31x5 Remy	Wagner	109	32x3 SS	.....	1225	1225	11585	2585	
V-3	8-31x5 Delco	Waths	127	33x5 SS	.....	14950	4750	4950	.....	MOON	6-31x5 Delco	Delco	115	32x3 SS	.....	11195	1195	.....	.....	.....	6-31x5 Remy	Wagner	109	32x4 SS	.....	1585	1585	11585	2585	
DANIELS	8-31x5 Waths	Waths	127	34x4 QDR	.....	3750	3750	5500	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Wagner	126	33x4	.....	.....	.....	1985	.....	.....
B	6-31x5 Waths	Waths	127	34x4 QDR	.....	3750	3750	5500	.....	MURRAY	8-31x5 Conn	A-Lite	106	30x3 1/2	.....	.....	895	.....	.....	.....	6-41x6 Delco	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
DAVIS	6-31x4 Delco	Delco	120	33x4 SS	.....	11750	1695	2995	.....	NASH	8-31x5 Dixie	Waths	126	34x4	.....	2800	2800	2800	.....	.....	4-31x5 Remy	Remy	118	32x4 SS	.....	12285	2185	.....	.....	.....
DISPATCH	4-31x5 Bosch	USL	120	34x4 SS	.....	11260	11260	.....	.....	682	6-31x5 Delco	Delco	127	34x4 SS	.....	.....	1640	.....	.....	.....	6-31x4 Remy	Remy	114	32x4 SS	.....	1525	1525	11525	.....	.....
DIXIE FLYER	4-31x5 Conn	Dyneto	112	32x4 SS	.....	.....	1365	.....	.....	681-6	6-31x5 Delco	Delco	121	34x4 SS	.....	11400	1400	11640	.....	.....	6-31x5 Remy	Remy	124	33x4 SS	.....	12035	1910	2065	.....	.....
H-50	6-31x5 Conn	Dyneto	112	32x4 SS	.....	.....	1365	.....	.....	NATIONAL	6-31x5 Delco	Waths	128	34x4 QDR	.....	12450	12450	2450	3120	.....	6-31x5 Delco	Delco	125	33x4 SS	.....	2590	2590	3190	.....	.....
DODGE BROTHERS	4-31x4 Own	N.E.	114	32x3 SS	.....	1685	1685	.....	1760	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Wagner	126	33x4	.....	.....	1775	2390	2190	.....
DORRIS	6-31x4 Bosch	Waths	122	35x5 SS	.....	.....	1760	.....	.....	NORWALK	4-31x4 Bosch	U.S.L.	104	32x4 SS	.....	1200	11400	.....	1800	.....	6-41x5 Conn	A-Lite	121	34x4 SS	.....	.....	1725	2750	.....	.....
6-30	6-31x4 Bosch	Waths	122	35x5 SS	.....	.....	1760	.....	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
DORT	4-31x5 Conn	Waths	122	35x5 SS	.....	.....	1760	.....	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
ELGAR	4-31x5 A-Kent	Dyneto	116	32x3 QD	.....	1925	925	.....	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
D.F.	6-31x4 A-Kent	Dyneto	116	32x4 SS	.....	.....	1775	1175	1765	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
ELGIN	6-31x4 Warner	Wagner	118	33x4 SS	.....	1395	.....	1950	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
ESSEX	4-31x5 Delco	L	108	22x4 SS	.....	1395	.....	2350	.....	6-46-19	6-31x5 Delco	Delco	125	35x4 SS	.....	12500	.....	.....	.....	.....	6-31x5 Remy	Remy	120	32x4 SS	.....	2760	12560	2560	.....	.....
6-30	4-31x5 Own	.....	100	30x3 1/2 C	.....	500	525	.....	775	6-46-19	6-31x5 Delco	Delco	117	32x3 SS	.....	1165	.....	.....	.....	.....	6-41x5 Bosch	Bijur	138	35x5 QD	.....	4350	4350	4350	5600	.....
F	4-31x4 Own	.....	100	30x3 1/2 C	.....	500	525	.....	775	6-46-19	6-31x5 Delco	Delco	117	32x3 SS	.....	1165	.....	.....	.....	.....	6-41x5 Bosch	Bijur	138	35x5 QD	.....	4350	4350	4350	5600	.....

ABBREVIATIONS: "A.Lite" "Auto-Lite", "Com" "Comet", "E.L.K." "Elkhart", "G & D" "Gray & Davis", "H.K." "Hawthorne-Knight", "L.N." "Leeco-Norris", "L.N.E." "Leeco-Norris-Elkhart", "M.A." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M.C." "Moline", "M



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

Volume LIX  
Number 12

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, JUNE 18, 1919

Fifteen cents a copy  
Three dollars a year

## What Hudson Offers Dealers

Sixty thousand satisfied owners give the Super-Six advertising value that no other fine car enjoys. Sales for every month this year have exceeded the sales for the corresponding month in 1918.

The Hudson Super-Six is the largest selling fine car in the world. Its reputation for endurance, speed, and power is scarcely rivaled.

Note the kind of dealers Hudson has. They are everywhere the most prosperous. Their stores indicate the quality of the car they sell. They are the show places of the industry.

Only in handling a car that has the confidence-winning quality of the Hudson Super-Six could they prosper as they have.

For years Hudson had a hard time to keep production's pace with demand. We have now found it necessary to expand our factory. Additional facilities have been installed. Output will be increased. In the future our dealers will be able to share still greater profits.

To meet with our rapid expansion a few high-grade dealers will be added to our organization.

You know what the Hudson standard is. If you meet it, write now. This is an opportunity to share in the prestige and prosperity of the world's largest maker of fine cars.



**Hudson Motor Car Company**

Detroit, Michigan

(G)





## Unusually Heavy Demand Emphasizes NASH Quality

THE high character of the performance of Nash passenger cars and trucks in the hands of owners everywhere is emphasized by the unusually heavy demand for these Nash products in all parts of the country. This demand means, of course, that Nash dealers are reaping the profits on a volume business.

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*Five-Passenger Touring Car, \$1490    Four-Passenger Sport Model, \$1595*  
*Two-Passenger Roadster, \$1490    Seven-Passenger Sedan, \$2575*  
*Seven-Passenger Car, \$1640    Four-Passenger Coupe, \$2350*  
*f. o. b. Kenosha*

### *Nash Trucks*

*One-Ton Chassis, \$1650    Two-Ton Chassis, \$2175*  
*Nash Quad Chassis, \$3250*

**The Nash Motors Co., Kenosha, Wis.**

*Manufacturers of Passenger Cars and Trucks  
Including the Famous Nash Quad*

# NASH MOTORS

**VALUE CARS AT VOLUME PRICES**



# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

239 West 39th St., New York City. 'Phone Bryant 8760  
PUBLISHED EVERY WEDNESDAY BY

## The Class Journal Co.

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## Editorial Contents

Tractor Demonstration Opens Eyes of Colorado .....	8
Selling Optimism to Your Own Organization.....	12
How to Overcome Show Window Reflections.....	14
Da Palma Wins the Big Race.....	16
The Things You Ought to Do.....	17
The Law .....	18
Modern Methods in Ford Repairing.....	19
Repairshop Shortcuts .....	24
Editorial Observation .....	26
From Groceries to Automobiles.....	27
Shooting Troubles .....	28
Scientific Garage Construction.....	29
The Retail News .....	31
Automotive Equipment .....	33
News Letters from Important Centers.....	38
Coming Events .....	44
Specification Tables .....	45
Regular News Department.....	34-44

Advertisers Index on Pages 152-153

# "NORMA"

## PRECISION

## BALL BEARINGS

(PATENTED)

The "one-hoss shay"—one time only an inspiration to a poet—today typifies the ideal which builders of cars, trucks, tractors and power boats are striving to realize. To create an automotive unit of uniform time-and-wear-resisting capacity in every part—one that, when it fails, will fail "all at once and nothing first"—this is the goal towards which builders are striving.

It is a significant fact that the longest-lived automotive units are those carrying "NORMA" equipped magnetos and lighting generators. And it is a matter of record that "NORMA" equipped electrical apparatus often outlasts the usefulness of the machine that carries it.

**Be Sure—See That Your  
Electrical Apparatus  
Is "NORMA" Equipped.**



**THE NORMA COMPANY OF AMERICA**

1790 BROADWAY

NEW YORK

*Ball, Roller, Thrust and Combination Bearings*



# *The* Contented Driver

**E**ASY steering makes Contented Drivers. It conserves human strength and increases efficiency in both driver and truck. It means a bigger day's work more easily done and greater satisfaction to both the owner of the truck and the man who drives it.

This Contented Driver is only one of 140,000 who go to their homes after a better day's work with lighter hearts and with less wearied bodies, because the trucks they drive are equipped with

## ROSS STEERING GEARS

The special feature which distinguishes Ross Gears from all others is the screw and nut mechanism which transfers the action of the steering wheel to the steering arm. The nut is a solid piece, completely enveloping the screw, so that the enormous bearing surface on the threads of both screw and nut is utilized with every turn of the wheel.

These bearing surfaces not only make steering easy under all conditions, but they guarantee an unusual degree of safety and reliability.

Ross Steering Gears are now used as standard equipment by 120 different manufacturers, representing considerably over half the entire motor truck industry.

Write for catalog and any other information desired about "The Steering Gears that Predominate on Motor Trucks."



**ROSS GEAR & TOOL COMPANY, 725 Heath St., Lafayette, Ind.**



# FORD SERVICE

There are thousands of Ford stations scattered all over the civilized globe where interest in the current editorial feature is equal to that expressed by the Dunlop Motor Co., Ltd., of Kilmarnock, Scotland.

If you give Ford service and if you would know the best and most practical methods for rendering that service with maximum advantage to owner and to yourself read, and preserve for future reference, every one of these important feature articles. They began in our issue of June 4.

TELEGRAMS "DUNLOP MOTORS, KILMARNOCK" TELEPHONE NO. 262 37.

## The Dunlop Motor Co., Ltd.



Kilmarnock, May 28, 1919.

Editor,  
"Motor World",  
239 West 39th St.,  
New York City.

Dear Sir:

Your issue of May 7th is to hand to-day and we observe on page 23 an announcement with regard to forthcoming articles on Ford repairing and we are writing to ask if you could let us have advance copies of the articles for the purpose of enabling us to select and order the tools and machinery which the Author recommends in his lectures.

By reason of the distance we are from you it will be a somewhat tedious process to wait till the end of the lectures before learning what is necessary in the way of tools.

Perhaps the Author would summarize the items necessary and you could pass it to a good Accessory House for them to fill in the prices of the various articles and mail same to us when we would be in a position to instruct their shipment after checking off what we have got.

Our reason for rushing is that we have to-day obtained entry to large premises and are anxious to put our Ford repairs in a separate department and to have that department equipped in the best possible manner.

Yours faithfully,

*W. J. Dunlop*

It is suggested that manufacturers of special Ford service tool equipment get in touch with the above at Kilmarnock, Scotland. It is further suggested that the advertising section of Motor World will carry the manufacturer's message to the thousands of Ford service stations in every country where highways permit the operation of motor cars.





# GRAY & DAVIS

## *Quality Equipment*

**A** DEPENDABLE electric system is of utmost importance. Electric equipment must be correctly designed and precisely built. A system bearing the name "Gray & Davis" assures the owner of efficient performance at all seasons, under all conditions. Essentially a quality system for quality cars.

GRAY & DAVIS, INC.  
Boston Mass.

## AUTOMOBILE STARTING LIGHTING AND LAMPS



# MOTOR WORLD

for  
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, June 18, 1919

No. 12

## The Prosperity Parade



*Read the story on the following pages about how the tractor has driven the prairie dog from his home in Colorado and has opened possibilities of wealth for the state and business for tractor makers and dealers*





*Most of the machines had an interested crowd of followers regardless of dust and heat*

## *Tractor Demonstration* **Opens Eyes of Colorado**

*Thousands of Farmers See Arid Soil Made Ready; Manufacturers See Possible Great Wealth for Mountain State and Dealers Are Happy Over Future Sales of Tractors and Power Farm Machinery*

**D**ENVER, June 12 (Staff correspondence) — What the world doesn't know about the tractor and its possibilities has been demonstrated by the Mountain States National Tractor Demonstration which closed here today.

For thousands of years vast sections of Colorado have lain arid and sun-baked, the playground of prairie dogs, and scorned by man.

This week a great fleet of tractors went at 1200 acres of this soil, plowed it, harrowed it, and fitted it for seed, and as the chugging machines did this job that had for centuries been waiting for these tractors the eyes of 20,000 or 30,000 farmers and business men opened wide, dealers began to grasp the big sales possibilities, and the tractor manufacturers became more than ever assured of their part in the scheme of national development.

Heretofore, Colorado has been associated in the public mind with moun-

tain peaks and mines, and few have given a thought to her great areas of what used to be waste land. But now folks are talking of 25,000 tractors for Colorado within four years, the re-

clamation of 3,000,000 or 4,000,000 acres of arid and irrigated land, and a big, new agricultural industry, with new wealth for farmer, manufacturer and dealer.



*This is the big Twin City pulling twenty-four disk plow bottoms*



The show has been of great educational value to farmer and tractor maker alike. To the farmer it has shown power farming on a big scale, a reclamation of seemingly waste lands ready to give to Colorado new wealth perhaps greater than her mines ever did.

The manufacturers' eyes have been opened to the great possibilities of Colorado and the surrounding states.

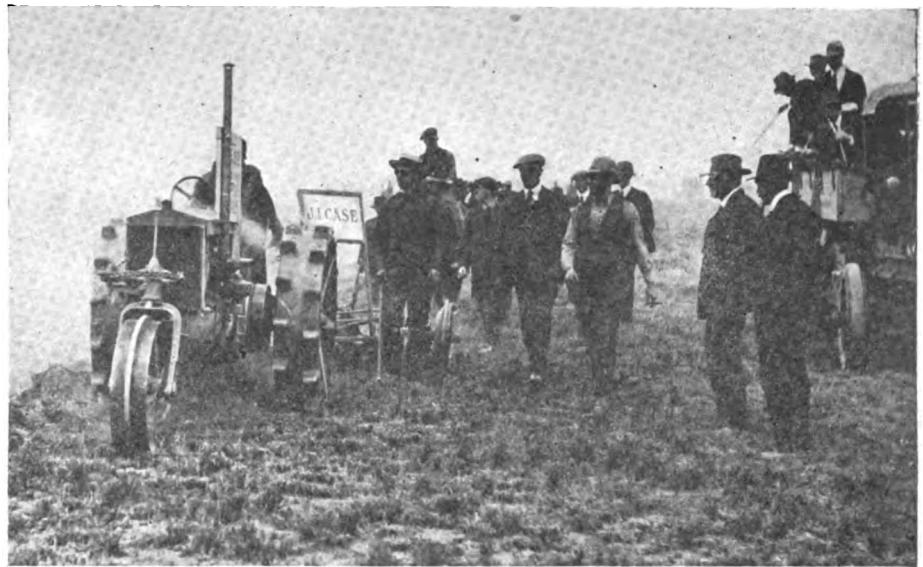
At the present time there are about 4000 tractors doing farm work in Colorado. As a result of the demonstration this week the prediction is common that this figure will be doubled next year by the thirty-five or more tractor dealers already established in Denver. The number of dealers here possibly will be doubled before next year's demonstration is put on. All this points to the fact that a new era of power farming has sprung up in this part of the country, where for years and years the sun-baked plains have remained idle.

It remained for the tractors and gang plows to show that this rock-like soil could be broken up and converted into useful tracts instead of being the playground for the prairie dog.

#### Tractors Get a Gruelling Test

Probably no better field could have been chosen anywhere in the country to test the mettle of the tractors and their equipment. A tractor that came through this demonstration successfully can pull its full quota of plows anywhere where a tractor is at all possible. The ground was so hard that the plows left a glazed surface on the edge of the furrows. Reports have it that in one or two instances a mold-board type of plow was ruined in a few hours plowing. This may have been due to too fast plowing, for in many other instances the mold board plow was functioning parallel with the disk type.

The disk type plow is especially suited for this part of the country, where the ground is extremely hard. It reduces the draft by the substitution of a rolling friction as compared with a sliding friction. Operators at this demonstration could not take advantage of stops to



*A Wallis tractor plowing. People followed machines around the field all day*

clean plows of trash as at many other demonstrations. In other words, as there was no stubble or anything else to interfere with the proper scouring of the plows an operator had no excuse for stopping presumably to clean his plows, when in reality his engine might be overheating, or some other trouble manifesting itself.

It was clearly a demonstration that brought out faults in any of the machines, and the manufacturers as a whole feel encouraged with the performances of their products.

#### Ground Packed Like Rock

With virgin soil like that east of Denver, where time has packed the ground into a rock-like substance, obviously the tractors, especially some of the smaller ones, had to back up a little now and then and take another start. A pile driver does not sink a pile into the ground with one steady push neither must it be expected that the smaller tractors with their full number of plows can go through the unscratched plains of Colorado without a halt now and then.

Until 1919 the tractor has not figured

very prominently in the cultivation of irrigated lands, of which there are in Colorado now about 3,400,000 acres. This irrigated country is a potential field for the tractors. Objection is sometimes raised to the use of tractors in irrigated lands, but tractors are being used successfully in such lands. Most of the objections have been based on the fact that the soil is too heavy, requiring as many as twelve horses on a 12- or 14-in. sulky plow and that a tractor designed to pull three or four bottoms could pull but two in these lands. In spite of this fact the ratio of work done to cost per acre remains the same as between the use of horses and tractor on dry land.

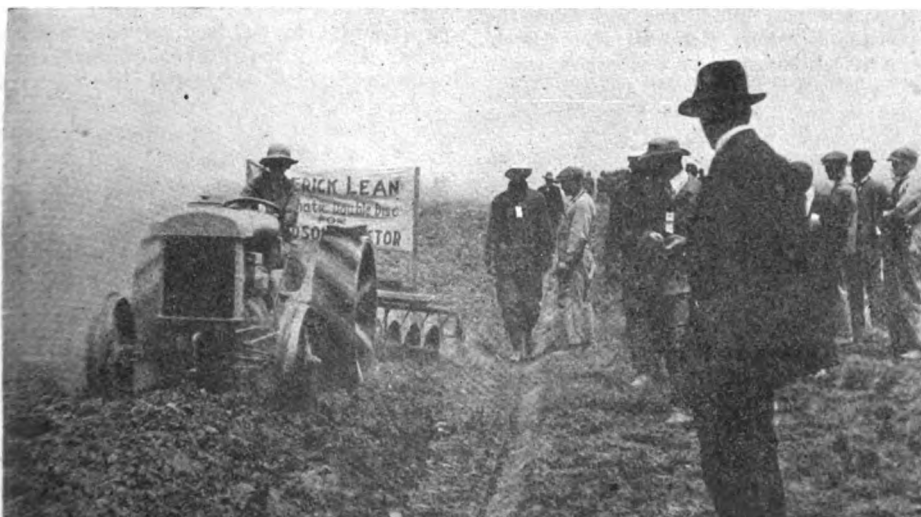
Another condition that spells the general distribution of the tractor in the irrigated lands is that in these lands are found great numbers of silos, necessitating ensilage cutters and other farm machinery requiring power.

Some farmers have bought expensive stationary gasoline engines for this purpose, where a few dollars more would have given them a tractor, which not only is a mobile outfit but will do anything the stationary engine will do.

#### Interest in Motor Cultivator

Where land is irrigated crops are sure and this has given rise to the great popularity of the small grain and bean thresher, with which the tractor is indispensable. The motor cultivator promises to become popular in the irrigated lands, as was shown by the interest in these machines at the demonstration.

The farmers who attended the Denver demonstration found the limitations of wind, rain and horsepower overcome by the tractor. Several years ago farmers of this section began to realize the importance of early plowing in summer. In this part of the country July is the logical month. But the farmer finds that after the harvest of winter wheat is out of the way his horses are not in the best of condition to tackle the land under the great heat of the midsummer sun. Haying time comes along also and the



*Marian Browning, daughter of the machine-gun inventor, driving a Fordson*





*The early morning view shows the great numbers of cars driven out early to avoid the congested and dusty roads*

horses must be brought into action again.

Farmers here know that the wind, the weeds and sun take from the soil the necessary moisture and fertility unless some means are at hand to prevent it. The tractor is the solution, for there is no such thing as limitation to its use, as with the horse. After the wheat harvest is over the land is bare and exposed to the action of wind, sun and weeds. The stubble helps to draw the moisture out of the ground and a vast amount of moisture escapes if the land has been allowed to dry and crack. This moisture must be conserved by plowing the land and disking it.

When the land here is left until fall it has become so dry and cracked that it will not pulverize properly, resulting in a lumpy field and very poor seed bed. Weather conditions may prevent early plowing, but here again the tractor shows its superiority over the horse, for as soon as the ground is ready the tractor can go out and rush through the work.

#### **A Crowd of Real Prospects**

One of the best features connected with the demonstration was that the great majority of farmers present were just the ones the tractor men were anxious to show. These farmers came from fifteen states including Colorado, Utah, New Mexico, Texas, North and South Dakota, Nebraska, Wyoming, Oklahoma, Iowa, Montana, Kansas, Idaho and Nevada, as was shown by the register in the headquarters tent.

Besides this there were hundreds who did not register. These men came to get a line on the tractors with the expectation of using them on their farms. There were few who came for entertainment only. Only those interested in buying tractors would put up with the terrific clouds of dust stirred up not only by the machines in the field, but the thousands of motor cars coming and going.

The feeling is common among the tractor dealers that there will be little sales resistance to the tractor in the intermountain states. The soil conditions were typical of this part of the country and thus the farmers could visualize the machines working in their own neighborhood.

The attendance was enormous. Exact figures are lacking as to the number of

people who saw the show. Tuesday, which was Denver Day, brought something like 20,000 people, while some estimate as high as 30,000. There was a double line of motor cars nearly three-quarters of a mile long stretched in front of the exhibit tents, with machines coming and going all the time. Monday was given over to getting the plows and tractors adjusted so everything was in readiness for the actual plowing Tuesday morning. Plowing demonstrations were from 9.30 to 11.30 in the morning and from 1.30 to 3.30 in the afternoon of each day. Wednesday was Dry Farming and Livestock Day, while Thursday was called Rocky Mountain States Day.

#### **Big Outfits Showed Up Best**

Several makers were showing two or three different sized tractors on the field, but as a general thing the big outfits did the best work as they ran much more steadily and were too heavy to be shifted about by the inequalities of the ground. Some of the giant outfits pulled so many bottoms that there was very little penetration, which is often the case where a large gang is pulled, as the unit is not as flexible as a smaller one and will override depressions. Few of the tractors made a uniform depth of 6 in. but one or two went down as deep as 7 or 8 in. Deep plowing was not asked for from any of the machines. The soil was quite uniform, much heavier than the eastern soil where demonstrations have been held. There was a heavy sod, which in most cases was well turned under where it will for a long time furnish a moisture sponge.

There was a note of the military in the demonstration, with several huge

tanks and other army appliances in the headquarters tent. Several of the French seventy-five field pieces thundered a salute at 1 o'clock Tuesday afternoon, which was the formal opening of the demonstration and the signal for the one-hundred tractors to drop their plows and start turning the hard-boiled land to a depth of 6 in.

Practically every make of tractor was represented pulling from two bottoms in the case of the Fordson to twenty-four bottoms which the big Avery pulled. In the first minute, nearly 2½ acres of land was plowed and this record was practically maintained as the time went on. Each day was a repetition of the first, with the exception that the machines had to move to a different field each time. After every vestage of the virgin soil had been turned over and disked the machines swung around and formed a gigantic parade.

Over 1200 acres of the land turned, disked and drilled will be planted to fall crops. The land has been idle since time began and probably would have remained so for years more had it not been for the tractor.

#### **Many Operating Farm Machinery**

All the tractors at the show were not in the field. Scores of them operated threshers, ensilage cutters, cream separators, in fact almost every piece of apparatus apt to be used on the modern farm. In addition the headquarters tent contained exhibits of piston ring makers, tractor engines, oils and greases, tractor hitches, steels for tractor parts, magnetos, carbureters, etc.

The demonstration was authorized under the supervision of the National Tractor Manufacturers Assn., and the Denver Civic and Commercial Assn. as well as the Denver Tractor Club deserve much credit for the splendid way in which they co-operated to put over the show.

A. E. Hildebrand, manager of the National Tractor Manufacturers' Association, and J. B. Bartholomew, president, declared that the Denver conditions were ideal and feel that Denver is the logical place for the big national demonstration, not only from the standpoint of soil conditions, but hotel accommodations

### **What Do You Know About Burning-In Bearings?**

*This is a comparatively new process in fitting bearings on the Ford, and the complete process will be described and illustrated in the next installment of Modern Methods in Ford Service which will appear in the NEXT ISSUE.*



and similar matters that go to make a successful show. The idea seems to be for doing away with the small regional demonstrations and concentrate on the one big show on the Colorado plains.

While some people complained of the terrific dust, the farmers and tractor men declare the dry soil was just what they wanted. With damp soil, plowing becomes a relatively easy matter, but the western farmers wanted to know just what the tractors could do on the virgin acreage baked so long that it seemed impenetrable. There is no doubt but that one of the big results of the show will be the cultivation of vast acres in Colorado and other western states that heretofore have been taken as waste lands.

#### List of Exhibitors at Denver

Aultman & Taylor Machinery Co., nine tractors, bean and pea thresher and a New Century separator.

B. F. Avery & Son, seven tractors, motor cultivator, motor cultivator planter attachments, one Yellow Fellow separator and one Yellow Kid separator.

Advance-Rumely Thresher Co., four oil pull tractors.

Beeman Garden Tractor Co., four garden tractors.

Cole Motor Sales Co., Denver, ten Cletrac tractors.

Colorado LaCrosse Tractor Co., two Happy Farmer tractors.

Colorado Moline Plow Co., twelve Moline Universal tractors.

Colorado Lauson Tractor Co., three Lauson tractors.

J. I. Case Plow Works, six Wallis tractors.

J. I. Case T. M. Co., twelve Case tractors.

John Deere Plow Co., six Waterloo Boy tractors.

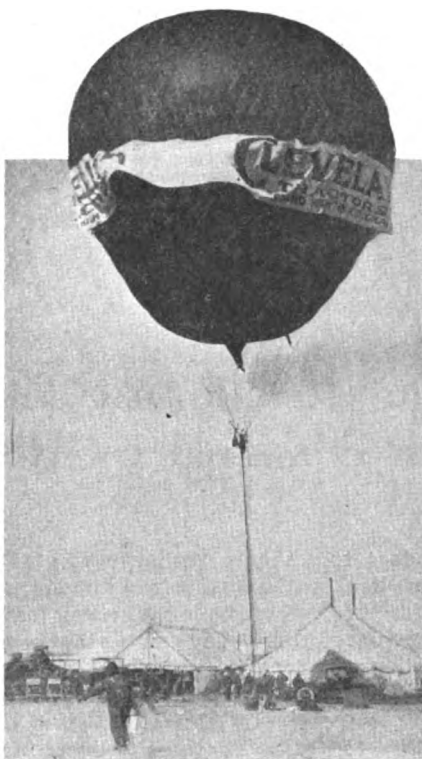
International Harvester Co., three Internationals and six Titans.

Independent Tractor and Farm Machinery Co., four Hart-Parr tractors and two Bailor motor cultivators.

Indiana Silo Co., six Indiana tractors.

Illinois Tractor Co., four Super Drive tractors.

H. W. Moore & Co., Denver, two Allis-Chalmers tractors, one Allis-Chalmers all-purpose automotive unit and two C. L. Best Track Layer tractors.



*The Cleveland Tractor Co. brought out a large captive balloon to the demonstration as advertising stunt*

Mountain States Tractor Co., eight Fordsons.

Minneapolis Steel & Machinery Co., thirteen Twin City tractors.

C. H. Parker & Sons Electric Co., Denver, two Eagle tractors.

Rock Island Plow Co., one Helder tractor.

William Saighman, Denver, four Gray tractors.

George W. Smith, Denver, three Fitch tractors.

Herbert Toogood Machinery Co., Denver, four General Ordnance tractors.

Emerson-Brantingham Implement Co., two tractors.

J. E. Jones, Denver, one All Work tractor.

C. W. Keith, Denver, one Huber tractor.

Holt Mfg. Co., four Holt caterpillar tractors.

Kinnard & Sons Mfg. Co., Denver, two Flour City tractors.

S. & R. Truck Sales Co., two Sandusky tractors.

Bates Machine & Tractor Co., one Bates Steel Mule.

Fageol Motors Co., two Fageol walking tractors.

Wisconsin Tractor Co., four Wisconsin tractors.

Hession Tiller & Tractor Co., one Hession tractor.

Coleman Tractor Co., six Coleman tractors.

Yuba Mfg. Co., one Yuba tractor.

In addition the following concerns exhibited implements and accessories:

Colorado Implement & Tractor Co., ensilage cutters and separators.

Port Huron Machinery Co., Port Huron tractor and implements.

C. W. Keith, ensilage cutter and separator.

Light Draft Harrow Co., harrows and implements.

Oliver Chilled Plow Works, plows and tools.

Owensboro Ditcher Co., ditcher implements.

American Manganese Steel Co., tractor parts.

National Beet Harvester Co., beet harvester.

Waukesha Motors Co., tractor engines.

Byrne Kingston & Co., carbureters and magnetos.

Inland Machine Works, piston rings.

Double Seal Ring Co., piston rings.

Colorado Lubricating Co., oils and greases.

Monarch Mfg. Co., oils and greases.

W. W. Coates, silos and ensilage cutters.

Bosch Magneto Co., magnetos.

Alamo Farm Light Co., farm light plants.

Electro-Mfg. Co., Denver, spark intensifier.

Texas Oil Co., oils and greases.

Sinclair Oil Co., oils and greases.

Buller Coupler Co., tractor hitches.

K-W Ignition Co., magnetos.

Balso Oil Co., Council Bluffs, Iowa, oils and greases.

### *Executive Committee Responsible for the Success of the Rocky Mountain States Tractor Demonstration*



**A. J. SIMONSON**  
Member from Agricultural & Livestock Bureau of Denver Civic & Commercial Association



**A. E. HILDEBRAND**  
Who was manager and whose wide experience in tractor demonstrations insured the success of the event



**E. M. AMMONS**  
Former governor of Colorado, now president of the Agricultural & Livestock Bureau of Denver



**C. L. CLINTON**  
Member of the executive committee and prominent in the Denver trade



**F. M. ROSS**  
Representative of the Oliver Chilled Plow Works



# Selling Optimism To Your Own Organization

Henry Started Out to Do Just This—How Well  
He Succeeded Is Told by His Own Men

**U**SUALLY when a merchandising story is printed and read, that ends it as a matter of permanent record. Sometimes it concerns a theory that the man behind the idea has tested and found good, but those stories are not often along very novel lines. The other kind—the kind that you want to know the answer to—are those which deal with a new condition. These stories are advanced when certain conditions arise and later you wonder how they worked out. Perhaps you tried it yourself and succeeded. Then you wonder about the other man.

MOTOR WORLD printed such a story in the issue of Feb. 19 on the spring selling of motor cars, as an interview with H. R. Henry. At the time that was printed a good many dealers were in doubt as to the future. Some read Henry's views of implanting optimism throughout his organization with considerable question in their minds.

## Some Man Wrote Him

Some man wrote to him about it. Several persons have spoken to the writer about the plan, expressing considerable doubt. One thing that can be said about Henry's plan of "treating the advanced price as a fixed condition" is that nearly the entire business public has joined in that chorus. Henry was one of the first in his community to begin that preaching, but later he had plenty of help.

But to get back to where we started, we wanted to test Henry's theory, so that we could tell you whether he put it across or not. So far, the test of cars placed with consumers and dealers ap-

pears to indicate an increase of 100 per cent in the business of the organization for which he is the selling main-spring. A few days ago Henry put this sentiment in writing:

*"The spirit of optimism is prevalent in our entire organization—this applies to dealers' organizations as well as local. In my opinion, 30 days will bring about a shortage of automobiles unprecedented in this district."*

## Very Good for Henry

Very good for Henry; you might say that he was whistling to keep up his courage. What about the rest of his organization?

Well, we asked them about it, just to learn if Henry had made optimists of them all. Here are some of the answers. Judge for yourself.

T. L. Haussman, president: So far this year our sales departments have put over a 100 per cent advance. With the prices in prospect for crops in our territory I am expecting 1919 to be the topnotch year.

W. G. Wallace, secretary, the financial man: All departments have shown a big increase in earnings over any previous year. March promises to be the biggest month we ever had. I expect 1919 to be the biggest year with the biggest profits.

F. J. Probst, manager accounting department: From the start we have made I can see nothing but the biggest year. I regard the future as WONDERFUL.

R. H. Patterson, Assistant Manager of Wholesale: Dealers are stocking cars in larger quantities than ever. Splendid retail sales are reported from the territory.

A. E. Reece, Superintendent wholesale department: Our dealers—and their bankers—are taking a broader view of financing the automobile business, and, with very few exceptions, have been able to take on themselves their entire allotment of cars. This has put them in A1 condition for the opening of the spring season. The recent rains and retarded sales have made them all enthusiastic good roads boosters. They see where good roads mean money.

D. M. A. Branch, Quincy, Ill., dealer: Our dealers' organization is twice as large as in 1918 and each will be sorely disappointed in himself if his gross sales are not twice as large as ever before.

Frank Rogers, dealer: My dealers consider themselves fortunate that they are connected with a distributor who can supply sufficient cars. Reports to me are that the farmer who expected that he or his son would have to go to war, now finds that he is to get \$2.26 for his wheat and he wants a car.

James Arbuckle, Jr., Poplar Bluff, Mo., dealer: The good roads that are under way this year are going to sell many cars for us. Farmers in this section have the money and are only waiting for the roads.

A. H. Allen, retail manager: We are telling buyers that an advance in price is more likely than a lower cost. Cost cannot be lowered until fundamentals of living and construction are cheaper.

J. Gwynn, retail salesman: The service of our company has backed up the salesmen until they are not afraid to sell cars, for there is no comeback.

## Here's Real Optimism

William Thompson, retail salesman: After having had experiences with other lines, the spirit of the management here convinces me that I should have my banner year.

Charles O. Stewart, retail salesman: The public, in relaxing from the war strain, appears to have picked on the motor car as a means of diversion. The service of our company appears to be in keeping with the spirit of the times.

Tom H. Phillips, retail salesman: The spirit here has tremendously impressed me. Before entering the service I was in a bank. On my return, two banker friends advised me to get into the automobile line. I feel that I did not make a mistake.

Charles H. Thurer, retail salesman: After all, a car is only as good as the company back of it. That is why we have confidence to sell.

L. P. Hambuechen, retail salesman: My commissions for February were \$1100. That is my answer. I went to the undertakers with a conservation proposition—to cut the cost of their lim-



ousine equipment. As undertakers believe in standardizing their equipment, I see good times ahead.

B. Huff, retail salesman: I am looking for a banner year because I am sold on the Overland and am going to push my confidence along.

George Duntze, retail salesman: The service department has backed me up so often and I feel that I am selling it and I face my prospects with the utmost confidence.

J. P. Hart, retail salesman: After being connected with other organizations, I have been so impressed by the co-operation and fairness of this organization, that I am making extraordinary efforts

and meeting with extraordinary success.

C. A. Oppliger, retail salesman: There never was a better selling opportunity than the Overland Light Delivery Car. It appeals so strongly to merchants from an advertising viewpoint.

J. H. Gibson, manager used car department: This year the used car business will reach its crest. The so-called people have their pockets lined with money and are not afraid of cars that have been tested.

James F. Read, used car salesman: The war taught so many persons to know cars that they are not afraid to take on a used car, hence we are set for our biggest business.

J. J. Cratty, used car salesman: That this will be our biggest year is shown by the business done so far and the number ready to buy and the lack of prejudice against used cars.

A. C. Phillips, used car salesman: The business this year and our prospects indicate at least a 50 per cent increase for the year.

Now stop and think yourself back to last Nov. 11 when Henry started to put over a 100 per cent increase in business in 1919. Think what your own organization is saying and then ask yourself: "Does it pay to be an early optimist?"

## Tire Repair Cost Records

No. 3300

SALESMAN REPAIRMAN

**L. J. TILLOTSON**  
2306 CHESTER AVE. BAKERSFIELD, CAL.  
RETIREDING AND VULCANIZING

Date 11/16/18 1918

Name Arthur Lee

Address China Alley

**REPAIR TICKET**

RECU. NO. SHIP TERMS

Tire Change  
Punctures &  
Blow-outs  
Pinches, Etc.  
Valve Core  
Retread  
Section  
Surface Patch  
Reinforcement  
Refuse

Cure in 15.00

THIS IS THE ONLY VYMERIZED BILL WE MAKE

### Vulcanizing Cost Sheets

Editor Motor World: Enclosed is a cost sheet that I worked out which saves real money on the individual job. If used continually there is no need to do a guess at the price.—L. J. Tillotson, Bakersfield, Cal.

**COST SHEET**

Date Rec'd 11/16/18 Job No. 3300

TIME	WORKMAN	RES.	REB.	REB.	REB.	AMOUNT	TOTALS
Tearing Down	JL	1	30				90
Buffing and Cleaning		1	30				
Cementing							
Laying Cushion	dis	2	10				110
Laying Fabric							
Laying Tread							
Tearing Down	dis	2	10				110
Repairing							
Cementing and Placing							
Tire Changing							
Shoe Cementing							
Fabric Patching							
Delivery and Calls							
3 Pl. Cement							53
2 1/2 Cushion							2.00
3/4 Fabric							90
Tread							
Shoe Stock							
Relines							
Rel. Cement							
New Shoe							
Paint							
No. 7 Cure	145						96
Rebuilding							
Finish Work						15	15
Man Hours Overhead							
Hr. 7 Min. —	40						280
							934
Guarantee Work	Sell					15.00	
on Job No. ✓	Cost					934	
Date ✓	Profit					566	

Weight After Built lbs. \_\_\_\_\_

Weight Before Built lbs. \_\_\_\_\_

Cushion Gauge \_\_\_\_\_

Inside \_\_\_\_\_

Outside \_\_\_\_\_

Weight 2 1/2 lbs. ✓ Squ. In. \_\_\_\_\_

**FABRIC**

1 Ply \_\_\_\_\_ x \_\_\_\_\_

2 Ply \_\_\_\_\_ x \_\_\_\_\_

3 Ply \_\_\_\_\_ x \_\_\_\_\_

4 Ply \_\_\_\_\_ x \_\_\_\_\_

5 Ply \_\_\_\_\_ x \_\_\_\_\_

Weight 3/4 lbs. \_\_\_\_\_ Squ. In. \_\_\_\_\_

**RUBBER**

1 Ply \_\_\_\_\_ x \_\_\_\_\_

2 Ply \_\_\_\_\_ x \_\_\_\_\_

3 Ply \_\_\_\_\_ x \_\_\_\_\_

4 Ply \_\_\_\_\_ x \_\_\_\_\_

5 Ply \_\_\_\_\_ x \_\_\_\_\_

6 Ply \_\_\_\_\_ x \_\_\_\_\_

7 Ply \_\_\_\_\_ x \_\_\_\_\_

Weight \_\_\_\_\_ lbs. \_\_\_\_\_ Squ. In. \_\_\_\_\_

Date Delivered 10/14

Name Lee

Delivery Terms Cash



# How to Overcome Show Window Reflections

**W**ALK along the automobile row in any city on most any day and instead of seeing what is behind the glass you see a lot of phantoms.

The result obtained by the lights and shadows is what the camouflage artists strove for during the war. However, this is not what dealers are striving for.

The product displayed is as thoroughly concealed as would be the case if very careful effort had been made to conceal it.

This is not the sort of display that is likely to put money in the pocket of a dealer. What he wants is to have people see his goods.

Watch the people passing along the streets where automobile dealers have established their showrooms. People have to crane their necks and can see little of what is inside the average display room unless they make a special effort to do so. Even then they are not likely to get a good view. This may result in some people entering the salesrooms who otherwise would not do so. *It also prevents many people seeing enough to arouse the curiosity or interest necessary to persuade them to enter these rooms.*

It is only at night when the streets are lighted by artificial lights and the interior of the salesroom is flooded with light that the average salesroom display is effective. During daylight hours the window glass might as well be used for bill boards as far as its being of service in selling automobiles is concerned.

Every line of business using display windows has the same problem to overcome and many different methods have been worked out. Many of these can be applied to the automobile dealers' problems with an efficiency as great as has resulted in department, furniture and piano stores.

## Discover the Cause

The first step towards the solution of the problem is to discover the cause for these optical illusions, to find out why it is that we see part of one machine and the rest of another where only one machine actually exists.

It is all caused by the reflecting powers of glass combined with different degrees of light. If you blacken the back of a piece of glass and then illuminate the front you have a fairly good mirror.

If you have used black velvet and placed between the velvet and the glass different objects you find that you can see some of these objects, but also the reflection of the objects in front of the glass. It depends what these objects are what result you secure, but it is likely to be one of confusion. The objects do not appear natural.

*The reflection troubles of the automobile dealer are caused by the fact that there is a great deal more light outside the display room than there is inside.* The darker interior tends to transform the plate glass into a mirror. The darker the interior or the deeper the room the greater is the reflecting power of the glass brought out.

The result is that instead of displaying the cars inside the salesroom, the buildings across the street are shown, possibly even the signs and show windows of a competitor.

Of course, if there was nothing at all on the other side of the street there would be no trouble. There would be nothing serious to reflect. If, however, there happens to be a tall white building just across the street that is what the passerby sees in the window glass instead of the fine cars shown inside.

A very simple way to overcome this reflection difficulty is to use enough artificial light throughout the day inside the

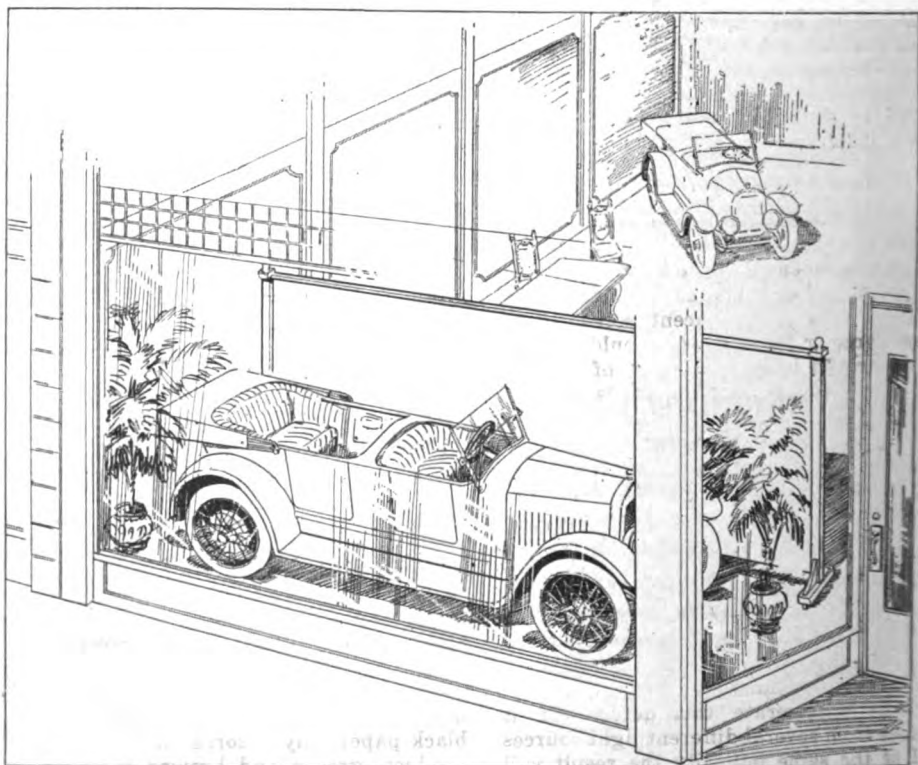
salesroom to make the interior brightness equal or exceed that outside. This remedy, however, will prove expensive since possibly even more lights will have to be burned in the day time than are burned at night.

Another method which has been used with success is curved glass in the window. This requires special window frames and glass that is bent with a curvature such that the angle of reflection of objects outside the window will throw the reflection above the point of vision of people on the sidewalk.

At one time there was a piano store on Fifth avenue, New York, with a window of this type. The glass was almost invisible. It almost seemed as though one were looking directly at the piano displayed rather than through a piece of plate glass. These windows, however, have never come into any great degree of popularity in spite of the fact that they are so effective in overcoming the reflection. The special window construction required and the high cost are partly responsible for this.

The most practical method is to confine the daylight display to the windows alone and to make no attempt to make the whole display room clearly visible from across the street or from the sidewalk.

The nature of the displays, the large



A portable screen in back of the car breaks up reflections very effectively



size of the cars, the big investments in decorating the display rooms and placing the cars for display upon the sales floors are among the reasons why automobile dealers have been averse to using backgrounds in their windows and confining the window displays to a single car.

There are not enough cars in most salesrooms to make the display look crowded or confusing if the whole display room is used for a window display.

### Effective Night Display

The effect at night of these displays is all that can be asked for. During the day, however, the effect is far from satisfactory—in most cases very far from satisfactory. Instead of making the whole display room one well-arranged and attractive window display the reflections from the plate glass turn the whole thing into a kaleidoscopic jumble.

By making the display during the day only one car deep inside the window a great deal of the reflection can be overcome. This is done in using portable background screens of light color and high reflecting power. The colors and decorations on these screens must be such that they absorb the minimum amount of light and they must be made of material that will break up the reflections of objects across the street. In other words, the surfaces must be of a rough texture and the color highly reflective.

If these screens are placed close to the car a very marked reduction in the amount of reflection from the glass will be observed. In most cases the car that was almost entirely invisible before now stands out sharply against the contrasting background of the screen. *Instead of having no display at all one car is prominently displayed.*

This method is not expensive and will be found to be as effective as any method that can be adopted. The screens can be made as ornate or as artistic as desired. They can be made to harmonize with the other decorations of the salesroom. In fact, they can be made a real decoration. At night they can be removed and the whole floor thrown open to view.

### Three or Four Screens to Car

These screens do not have to be as large as the car. They should be small enough to be easily moved and they need not be placed end to end. A space can be left between two adjacent screens. At least three or four screens should be used to a car and be grouped back of the car in such a way as to bring out its outlines and to cut down the window reflections to the greatest possible degree. It will require a little experimenting to find out just the grouping that will give the best results.

In some cases it will be necessary to use artificial light in addition to the screens. The light should be thrown upon the car from several different locations. If it all comes from one source it will serve to bring out the slightest defect in the finish of the car and to greatly exaggerate this defect. If it comes from several different light sources all of the same intensity the result will be much more pleasing.

A very good way to accomplish the desired result is to install lights in the four corners of the windows and equip them with flood lighting reflectors. By lighting the car both from the floor and the ceiling, unpleasant reflections due to the artificial lighting will be avoided.

Different degrees of brightness, however, will be needed for different colored cars. A black car will need very much more illumination than a white one. In fact, a white or a light colored one may not require any artificial lighting at all but will require a darker background than the black car in order to bring out its lines strongly.

### Study Your Color Scheme

Since the success of this method of overcoming the objectionable reflections depends to a very considerable extent upon the reflecting and light absorbing qualities of different colors it is essential that some knowledge of these qualities be acquired and used intelligently if the desired results are to be obtained.

A light attractive color which at first thought apparently would absorb but little light may be the one that absorbs a great deal and be the color that should not be used. For this reason some table of the light absorbing qualities of different colors is essential. There are now published very extensive lists along these lines. Most books on illuminating engineering give it considerable attention. The following table, however, is complete enough to give the reader a pretty good idea of the right and the wrong colors to use when making the screens.

### Absorption of Light by Colored Paper

Material	Percentage of Light Absorbed
White blotting paper.....	18
White cartridge paper.....	20
Ordinary foolscap.....	30
Chrome yellow paper.....	38
Orange paper.....	50
Plain deal paper (clean).....	50 to 60
Yellow wall paper.....	60
Yellow painted wall (clean).....	60
Light pink paper.....	64
Yellow cardboard.....	70
Light blue cardboard.....	75
Brown cardboard.....	80
Plain deal paper (dirty).....	80
Emerald green paper.....	82
Dark brown paper.....	87
Vermillion paper.....	88
Blue-green paper.....	88
Cobalt blue.....	88
Black.....	95
Deep chocolate paper.....	96
French ultra-marine blue paper.....	96.5
Black cloth.....	98.8
Black velvet.....	99.6

This table, though by no means complete, does show the importance of selecting colors and materials for the background screens with care. It will be noted that there is a very considerable difference in the absorption powers of black velvet and of black paper. While black velvet comes within four-tenths of one per cent of absorbing all the light, black paper only absorbs 95 per cent.

Blues, greens and browns absorb too much light to make them effective as col-

ors for background screens. White, yellow and orange, however, can be used with satisfactory results. The eye cannot always be trusted in picking colors. Two colors that look alike to the eye may be vastly different. One may absorb more light than the other on account of a slightly different combination of colors that has been used in mixing the colors. Though the difference is not great enough to be apparent to the eye there may be considerable difference in the reflecting powers of the two colors.

The materials used must also be considered. As the table shows cloth absorbs more light than paper. A textile surface absorbs more light than a hard, smooth surface. These are small points, but small ones have to be considered if the window reflection problem is to be solved with the greatest degree of satisfaction.

Satisfactory screens used as backgrounds for the cars displayed with the cars flood-lighted to the intensity required to overcome the reflections on the window glass if the screens alone do not prove effective will overcome all troubles from reflections now experienced by automobile dealers.

To get the very best results, however, and to secure these results at the minimum of cost it is necessary to pay close attention not only to the selection of the color scheme of the screens but also to the material of which the surface is made. The surface must not be made of a material having too perfect a reflecting quality. Neither must it be made of a material that absorbs an undue amount of light. Some material such as paper or similar substance in the happy medium must be chosen.

### Find the Leak.

“WHEN anybody tells you there's no money in a repairshop just tell him to get busy, that there's something wrong,” says Charlie Starr of J. & G. Starr & Co., Ford dealer at Decatur, Ill.

“At the end of the first year I ran my shop here I figured, as nearly as I could get at it, that I'd made just \$14 on the year's business. I nearly threw a fit. I went all over my figures again with the result that the best I could do was to throw some doubt on that \$14, even. Then I called in an expert accountant.

“‘See here,’ I said to him, ‘something's wrong here and I can't find it. Go to it and see what you can do.’

“Well, that fellow worked seven weeks—cost me a nice little \$1000 fee—and then he submitted a plan.

“I tried it out for a year and found I had increased my profit to \$700. Still I wasn't satisfied. So I stopped up a few more leaks and made some other changes. Then I began to make money. Now, I charge against my shop one-third of my rent, heat, light and such things, \$1500 as a salary for myself, and still show a good profit every year. It's just a matter of system. Get the right system and then stick to it. If you can't get the right system yourself hire an expert to put one in for you. It pays, no matter what it costs.”



# De Palma Wins the Big Race at Sheephead Bay Against a Field of Crack Drivers

***Sweepstakes Called Off and Each Race an Event Unto Itself—  
Fifty Thousand Race Fans Watch Their Favorites Circle  
the Track and Mow Down Old Records—De Palma  
Makes 113.76 m.p.h. in 50-Mile Event***

**SHEEPSHEAD BAY SPEEDWAY, June 14**—Driving his car at a rate of 113.76 m.p.h., Ralph de Palma won the 50-mile event here this afternoon by covering the course in 26:23.40, incidentally breaking the record for this distance which was made by Louis Chevrolet last year. Chevrolet's time in making the previous record was 26:57.30. Dave Lewis, second, even went ahead of the old record, making the distance in 26:27.80.

In the shorter races which preceded the main event, two records were broken in the 30- and 10-mile races, Ralph Mulford winning the 30 in 16:01.20 and Tom Milton being the victor in the 10-mile,

his time being 5:20.20. Ralph Mulford also captured the special 10-mile event in 5:24.20. The original plan called for a 20-mile non-stock race for local cars and drivers not entered in any of the other events of the day, but this had to be called off on account of the small number of entries.

The purse offered the contestants amounted to \$35,000.

## **The First Race for 10 Miles**

Fully 50,000 race fans gathered to watch the events. The grandstand, which has 45,000 seats, was practically full and hundreds of cars were parked in the infield.

Just previous to the first race it was announced that the first man in each event would be winner instead of all four events outside the local race being sweepstakes. The first race, a 10-mile event, opened with nine starters. Tom Milton won in 5:20.20, with Ralph Mulford second in a Frontenac, Dario Resta third in his Resta special, and Ralph de Palma fourth in a Packard.

## **Second Race for 30 Miles**

The second event, a 30-mile race, was started with eight cars, of which only five finished. Mulford took the lead almost from the start and maintained the

*(Continued on page 34)*

*De Palma at the wheel of the winning Packard which broke the record in the 50-mile event*



*This crowded grandstand gives an idea of the interest the Easterners take in automobile racing*

*Ralph Mulford and his well-known smile. He did not finish in the big event, but showed up well in the shorter races*



*A close-up of the winning Packard*



*The pits were hives of industry*



# Why Don't You Do the Things You Know You Ought to Do?

By Ray W. Sherman

“**H**OW about a little air, Harvey?” Reilly, with a softening tire, stopped in front of Harvey's Garage and dragged the hose out of the hole in the sidewalk and proceeded to bring back enough resiliency to get his Sennett sedan back to the service station.

“Help yourself,” smiled Harvey. “Air is the one thing that hasn't gone up in price.”

Reilly laughed.

“We're thinking of raising the price, however.”

“Raising the price?” inquired Reilly.

“Yes, we're going to put in one of these pay-as-you-enter things that wind up the hose and won't let you get any air until you contribute ten cents for foreign missions.”

“Not bad! Not bad!” Reilly said, laughing. “When a man wants air it's worth ten cents—and then some. No reason why you should give it away if you can sell it.”

And just then the dissertation on air and other things was interrupted by the abrupt stop of a customer who changed the subject to greasy cushions. It was all right, he agreed, for a mechanic to sit in a car to test a motor, but he wasn't at all in favor of having Mrs. Customer clean the grease off with her new Sunday skirt.

There really wasn't much Harvey could say, so he compromised by kidding the customer along, making a declined offer to pay the cleaning bill and cementing a league of peace by giving the customer a cigar. He breathed easier after the customer had gone.

“Phew!” he wiped his brow.

“Well!” announced Reilly, concluding the camouflage inspection of his tires.

“Yes—well!” replied Harvey.

“What makes you let the men sit on the cushions with their greasy overalls?”

“Gosh! I forget about it. I've been going to fix up something so they wouldn't do that—but I forget.”

“And what about washing the display windows and keeping a good display in them?”

“I forget—Say! Don't read me a lecture, please! I know I ought—”

“And that's just what I want to tell you about. The things the people in this trade OUGHT to do and DON'T do. You know, Harvey, as well as I do, that the popular conception of a garage is that it is a dirty, greasy place in which a person who is at all dressed up should not go. You know, also, that it is current talk among car owners that they can't find in garages the things they want to buy. If a man wants a fan belt he may or may not get it, regardless of whether the garageman has frequent calls for it.

“And, since you and I and all the other people in this trade KNOW these things, why is it that we don't do something to remedy these conditions? Why is it that you haven't made some emergency covers for the cushions so that dirt and grease are not wiped all over cars when they are in your shop? Why is it that you don't pay any attention to the appearance of your display window? And why is it that you don't keep your stock up to date and keep it moving so you can render some service to your customers and make some extra money for yourself?”

## Get a Supervisor

“Well—you see—I'm busy and there's nobody to look after things like that.”

“Then, once again, I ask you, Harvey, why you don't get some measure of departmentalization into your business so that there WILL BE somebody to look after all these things that need to be looked after? You KNOW that you need somebody to look after these things and still you don't do anything toward getting that somebody. There's no one to blame but YOURSELF.”

“Then, there are motor car dealers who let customers come in and BUY cars but who don't begin to SELL them. They KNOW they ought to get some spiz and snap into their sales work but they DON'T DO ANYTHING. There are salesmen who KNOW that other salesmen are more successful and make more money, and these salesmen who are less successful KNOW there is something about these more successful methods that they ought to have. And not only that,

but these birds already KNOW what some of those more successful methods are but they DON'T DO ANYTHING ABOUT IT.

“And there are mechanics who KNOW that study helps a man, and that there are a great many things they could study to make themselves better mechanics. A mechanic who can read can make himself a pretty good engineer if he will only study. This, of course, takes time and effort. The mechanic, however, isn't handicapped by lack of knowledge as to what to do. He KNOWS, but he DOESN'T DO ANYTHING ABOUT IT.

“And now, Harvey, what I'd like to have you tell me is, why don't we all do these things that we know we ought to do?”

“Darned if I know,” said Harvey. “What's your answer?”

“I don't know either,” replied Reilly, “but I do know this, that those people who DO the things they KNOW they OUGHT TO DO are the ones who slide by the rest of us like a house afire and leave us wondering how they did it. And the answer to our wondering is so simple: They merely did the things they KNEW they OUGHT TO DO.

“What little I've got I got by doing the things I KNEW I OUGHT TO DO and what I haven't got is because I failed at that same point. The same thing applies to you and every other man in this and every other business.

“I, for one, would like to see this business on a little better plane. I'd like to see cleaner garages, cleaner salesrooms, better show windows, better merchandise stocks, better mechanics, better merchandising, and everything better all along the line. Furthermore, I'd like to see the job done by the people who are in the trade to-day instead of having to wait for a new crop to come along and push the present aggregation off the map, and—”

“And while you're at it—” Harvey pointed to the again flattened tire.

“Yes, I know what you'd like to say,” said Reilly. “If I had in that tire all the air I've let loose around here it would run a couple of thousand miles without being patched.”



# THE LAW

By George F. Kaiser

## PERPLEXED?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question?*

### A Contract Question

Editor Motor World: Please advise your opinion in the following: Last summer we had the sales contract for certain territory, and copy of same enclosed for reference.

Our contract expired July 30. Previous to this date, or on about July 18, other parties contracted for this same car to succeed our contract after July 30 on certain part of our territory, and immediately came into our contracted territory and sold a car, saying it was their territory, and tried to sell another car on the same ground.

We, however, were working that territory at the same time and sold the other buyer. We took up with these other agents about commissions on this car sold in our territory before their contract took effect, and they said that they wouldn't do anything, saying that we couldn't have sold that party a car. However, this does not seem to us is the question, and that they should be liable for commissions on a car sold in our contracted territory.

We took it up with the jobbers in this case and they claim that they did not authorize these dealers to sell in our territory until July 30, or when our contract expired, and for us to look to them. What can be done in this state in a case like this? Is a contract for the territory like this ground for action to collect commissions on sales made by other parties and territory of new machines?

If I sold a certain car and took a deposit on it, with the expectations of getting the territory contract, and a few days after this I found out that another man had signed up for the territory, after I had sold this car—what redress have I?

Have I any right to commissions if this party that bought this car from me takes one from the man that got the contract? Or do I have to refund the deposit money? I have not tried to buy one from the man that has the contract but have tried to get one outside.

Would the dealer that sold me one to fill this sale be liable to the local dealer for commissions on the delivery of this car in his territory?—Pederson Hardware Co., Chokio, Minn.

Answer—You said that you were enclosing a copy of the contract, but you did not do so.

If you have a contract with a manufacturer or some other person by which you are given exclusive territory and

sales are made in that territory you, of course, have a claim for damages against the party who contracted to give you that right.

If you make a contract with a prospective customer to sell him a car before you actually become the agent for that make of car, you are not entitled to commission if the prospect you dug up there after actually buys a car from the person who finally becomes the agent.

In a case like this a dealer should not bother with trying to get his commission from the agents who get in on his territory but should demand his rights from the manufacturer direct. Of course you will eventually have to retain local counsel so I would suggest that you do it an once because you have nothing to lose and everything to gain by cutting out delay.

### Lien Law in Missouri

Editor Motor World: Can you give me any information in regard to a lien law, for the garageman, regarding the collecting of accounts against the automobile owner? We have a case on hand where the owner refused to pay the bill against his car, saying the labor was too high. We had this car in the shop about six weeks, and ordered about \$75 worth of parts, which came C.O.D. We paid for them and overhauled the car from engine to rear axle, including starter and all. The labor figured up about \$90, but we made a labor charge of \$85, and it was worth every cent of it, at the rates of 90 cents an hour. The customer tried to settle this bill for \$100 but we refused to accept the check for this amount, as he thought we would, and he is a man considered to be worth about \$50,000. We are thinking of bringing suit for the full amount of \$153.36 and damages for holding us out of the use of our money. He took the car out over two months ago and said it was running

fine and seemed to be satisfied, but now refuses to pay the repair bill. Can we sue for damages, too, outside of the repair bill?—Joyce Garage, Vanduser, Mo.

Answer—In Missouri garagemen have a common law lien on chattels which have been improved by mechanical labor, but the worker must retain possession of the chattels. If he allows the chattels to go out of his possession he loses the lien. As you apparently have surrendered the car to the owner, you no longer have a lien, but there would seem to be no good reason why you should not sue and recover the amount you claim is due you. Consult your local attorney at once and have him institute suit for you.

### Michigan Bad Check Law

Michigan has now joined the states which are after the "bad check makers." The new Michigan law which has been approved by the Governor and goes into effect about August 18 says:

To punish the giving of checks, drafts or orders on any bank or other depository, wherein the person so giving such check or draft shall not have sufficient funds or credit for the payment of the same.

*The People of the State of Michigan enact:*

Section 1. Any person who, with intent to defraud, shall make or draw or utter or deliver any check, draft or order for the payment of money, upon any bank or other depository, knowing at the time of such making, drawing, uttering or delivering, that the maker, or drawer, has not sufficient funds in or credit with such bank or other depository, for the payment of such check, draft, or order, in full, upon its presentation, shall be guilty of felony and punishable by imprisonment for not more than one year or by a fine of not more than one thousand dollars or both such fine and imprisonment.

Sec. 2. As against the maker or drawer thereof, the making, drawing, uttering or delivering of a check, draft or order, payment of which is refused by the drawee when presented in the usual course of business, shall be prima facie evidence of intent to defraud and of knowledge of insufficient funds in or credit with such bank or other depository, provided such maker or drawer shall not have paid the drawee thereof the amount due thereof, together with all costs and protest fees, within five days after receiving notice that such check, draft or order has not been paid by the drawee.

Sec. 3. The word "credit" as used herein shall be construed to mean an arrangement or understanding with the bank or depository for the payment of such check, draft or order.

**M**OTOR WORLD will be glad to assist you with any legal problems. In writing give complete facts, copies of contracts, papers, etc. Be sure to tell us whether you maintain a permanent file of Motor World, as inquiries can frequently be answered by reference to previous issues.



# A Department of BETTER MECHANICS

No. 107

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Modern Methods in Ford Service

(CONTINUED FROM THE JUNE 11 ISSUE)

*Reboring the Cylinders—Fitting New Pistons—Fitting Piston Rings—Aligning the Connecting Rods—Burning in the Bearings*

By J. Howard Pile

THIS is the third of a series of articles on the best methods of Ford repairing. The first installment appeared in the June 4 issue. Future installments will deal with burning in the bearings, transmission overhaul, magneto testing and repairing, the ignition system, the carbureter, engine assembly, service operations on the rear assembly, front assembly, steering gear and all parts of the car.

### PART I—THE POWER PLANT (Continued)

#### 5—Reboring the Cylinders

CYLINDERS can be rebored by a number of different methods. The quickest way is by the use of a boring mill which is specially set or specially constructed for the Ford engine. Such a machine is quite expensive, however, and only the larger service stations would find it profitable to own and operate one.

There are several very excellent smaller tools on the market at the present time which are really greatly modified reamers especially designed for the purpose of boring out cylinders. These operate by clamping a guide to the top of the cylinder block. Through this guide extends the shaft which has a cutter head on the lower end. The cutters are adjustable so that the cylinder can be bored to fit the standard oversize pistons and the cutter head is fed by a screw on the shaft which turns in a nut or threaded hole in the clamp. Some of the types are shown in Fig. 21. No specific instructions can be given for operating the tools as they vary in mechanical design. The following operations cover the use of any one of the tools:

1—Examine the bore of each cylinder carefully to decide how much oversize

the bore will have to be. The standards are:

No. 3021 (piston)  $3\frac{1}{2}$  in. diameter (standard size)

*THE following subjects have been covered to date:*

*System in handling Ford service*

*The repair order*

*Labor operations covering repair work*

*Engine division*

*Rear system division*

*Front system division*

*Chassis division*

*Paint division*

*Body division*

*Top and windshield division*

*Lamp and horn division*

*Special*

*Segregation of work*

*Arrangement of departments*

*Disposition of old material*

*1—The power plant*

*1—Removing the engine from the car*

*2—Taking down the engine*

*3—Testing and straightening the crankshaft*

*4—Rebabbitting the cylinder block*

No. 3021-C (piston) .0025 in. oversize

No. 3021-D (piston) .03125 in. oversize

No. 3021-E (piston) .033 in. oversize

The bore should be measured at a number of different places with an inside micrometer and the cylinder bored to the next largest standard oversize unless there are scores and scratches, in which case the sizes will be larger still. The method of using the inside micrometer for this purpose is shown in Fig. 22. If the block has already been rebored to the largest oversize, it will have to be discarded and replaced by a new one, as there is a chance of running into a blow hole or getting the metal of the cylinder wall too thin at places and not only this, but it would be necessary to make up special pistons and rings which would most likely cost more than the fitting of a new block.

2—Set the cutters on the boring tool to the exact oversize desired, using an outside micrometer. The method is illustrated in Fig. 23.

3—Clean off the top of the cylinder block, scraping off all the dirt and pieces of gasket with a putty knife. This will allow the clamp to sit down true and flat on the block so that the cutters will cut a surface exactly at right angles to the top of the cylinder block. Theoretically



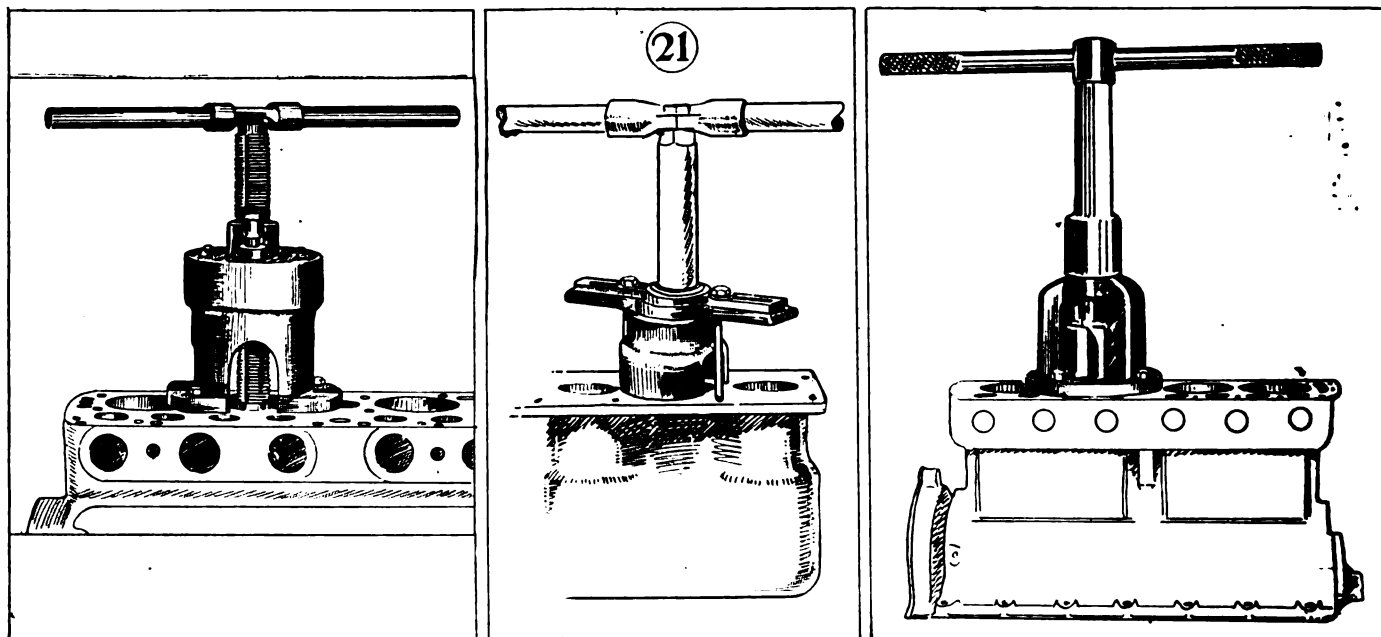


Fig. 21—There are a number of types of cylinder boring tools, three of which are here shown.

cally the clamp does not actually guide the direction of the cutters, but any side thrust caused by the clamp not being set down true is bound to cause more pressure on one side than the other. Therefore it is best to have the clamp true.

4—Clean out the cylinder bore, removing all oil, grease and dirt.

5—Clamp the cylinder block firmly in place in such a position that the workman will find it convenient and easy to turn the handle. It is generally found convenient to have some means of clamping the block directly on the floor or on a stand a few inches high. This enables the workman to stand in an up-right position.

6—Put the clamp in place. On some boring tools the cutter centers itself in

the cylinder bore by means of a lead ring. In such a case it is only necessary to insert the lead ring in the cylinder and then bolt the clamp fast to the top of the block. Other makes require centering by hand and this must be done very carefully to insure a true bore.

7—Set all the clamp bolts down good and tight and be sure that they are all equally set. One or two loose bolts may throw the clamp out of line or allow it to slip, which would be fatal to a true bore.

8—Turn the handle of the bar which rotates the cutters and also feeds the cutters into the cylinder. The cutters should be fed clear through the cylinder.

9—Repeat the operation on the other cylinders.

10—Remove all the chips and cuttings,

first by blowing out with compressed air, then by washing with gasoline or kerosene.

#### 6—Fitting New Pistons

If the cylinders have been rebored, the new oversize pistons should fit into the cylinders very closely but should not stick. Ordinarily lapping is not resorted to in Ford work because the pistons are very accurately sized and if the cylinder reboring has been accurately done, there is no need for it. It simply adds to the expense of the overhaul operation without any appreciable benefit. In extreme cases where the bore is not quite up to size or where oversize pistons are to be fitted to old cylinders without reboring, the pistons may be lapped in if they fit too closely. In any case an extra charge

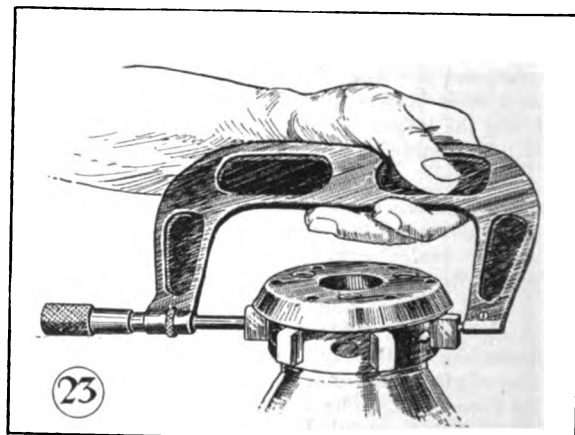
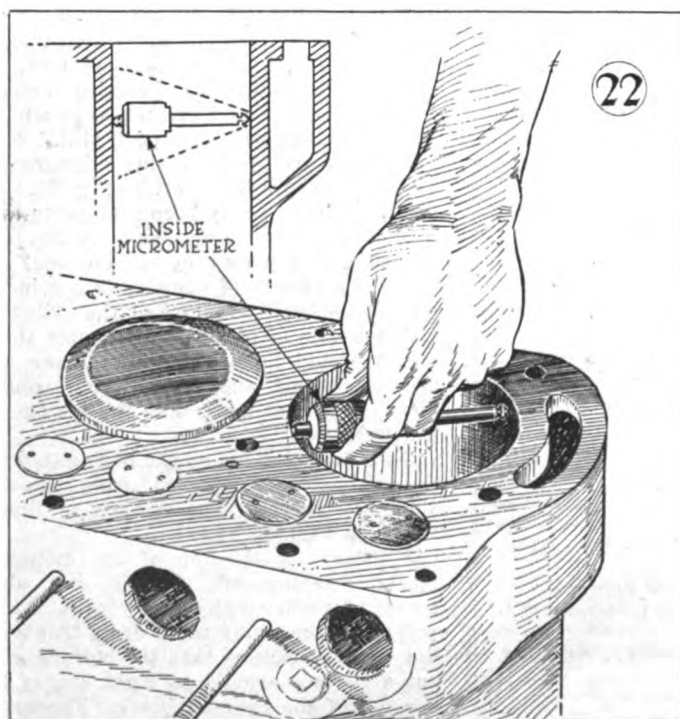
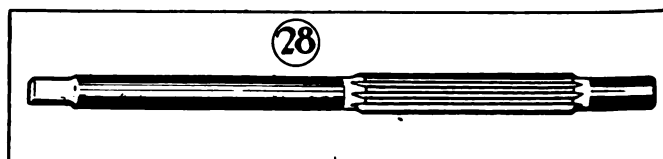


Fig. 22 (Left)—Measuring the bore with a micrometer. Fig. 23 (Above)—Setting the cutters with an outside micrometer. Fig. 28 (Below)—The piston-pin bushing reamer





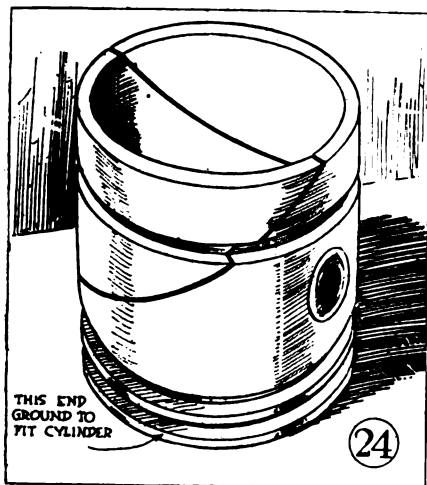


Fig. 24—An old piston slit to make a cylinder lap

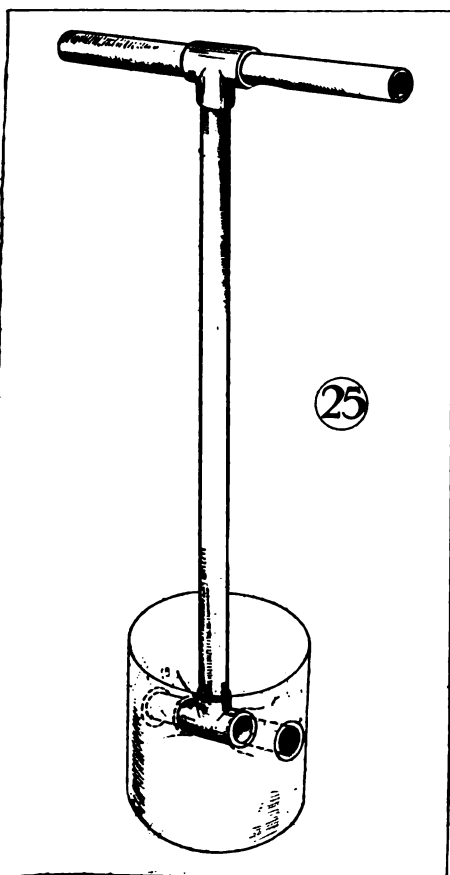
should be made for lapping, over and above the regular charges, otherwise a loss may be sustained on the operation. This is the procedure if lapping is deemed necessary:

1—Take a Ford piston which is larger than the diameter of the cylinder to be lapped and turn down the head to the diameter of the cylinder, leaving the skirt full size. See Fig. 24.

2—Slit the skirt diagonally with a hack saw.

3—Make a handle of 1-in. iron pipe and fittings as shown in Fig. 25.

4—Smear the lap with a small amount of fine grinding compound. It is not necessary to use a large amount and an excess will simply be wasted and will run down the walls, getting over everything.



5—The proper lapping motion is a combined twist and up-and-down stroke throughout the entire length of the cylinder. The lap should be turned from time to time to bring new surfaces into contact.

6—When the cylinder has been lapped so that the new piston will enter the cylinder and slide clear through without binding, the lapping is finished.

7—Coat the new piston with a mixture of ground glass and oil and transfer the lapping handle from the slit piston to the new one.

8—Lap each piston into the cylinder which it is to occupy.

9—The lapping should be continued until the piston when dry and clean may

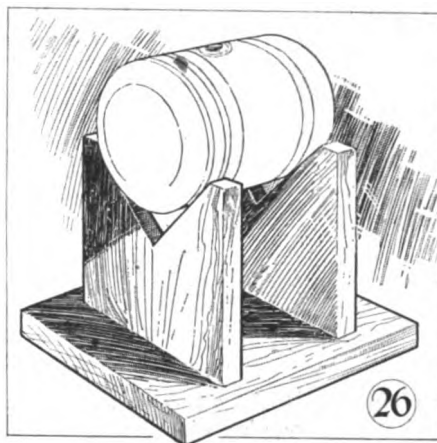


Fig. 26—This stand holds the piston while the bushings are driven out

Fig. 25 (Left)—A handle made up of pipe fittings is used to operate the cylinder lap shown in Fig. 24. The handle should be made long enough so that the operator will assume an easy position. Fig. 29 (Right)—The connecting-rod alignment jig is set on a line with the workman's eye

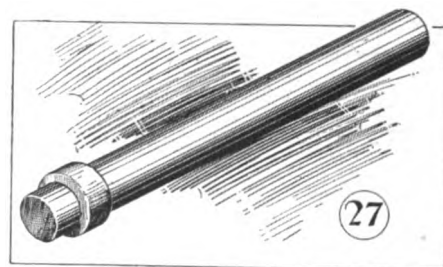


Fig. 27—This piston-pin bushing driver is turned out of a solid piece of steel, the diameter of the collar being smaller than the diameter of the bushing and the shaft fitting into the hole

be easily moved through the entire length of the stroke. It should not bind when moved around.

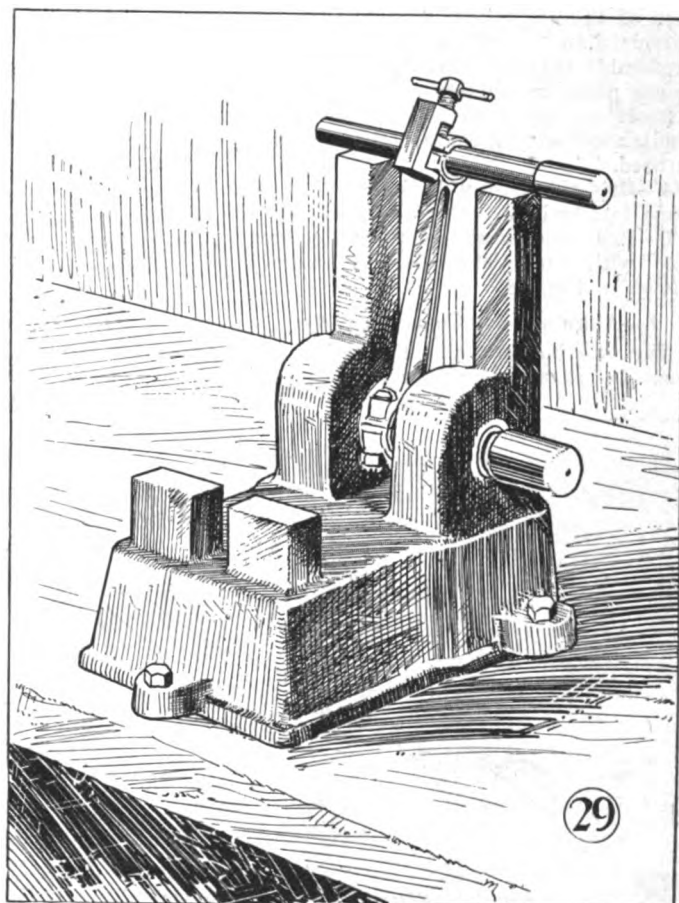
10—The clearance between pistons and cylinders should be between .003 and .004 in. for cast iron pistons. Alloy pistons require about twice this clearance.

If the difference in size is not too great it is not necessary to use the slit piston and the new piston can be lapped right in.

#### 7—Fitting the Piston Pin

If there is lost motion between the piston pin and the bronze bushings in the piston bosses, the bushings, or perhaps both bushings and pin will have to be renewed. If the pin is worn, the wear can be easily seen or it can be determined with a micrometer.

1—Set the piston on a jig shown in Fig. 26.





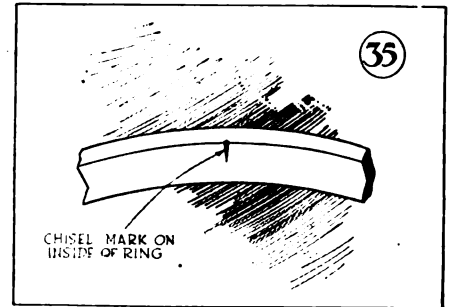
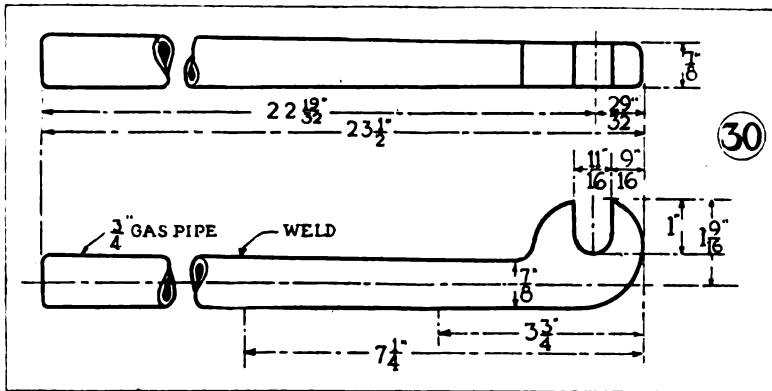


Fig. 30 (Left)—Detailed drawing of the connecting-rod bending tool. Fig. 35 (Above)—This chisel mark on the piston ring goes to the top

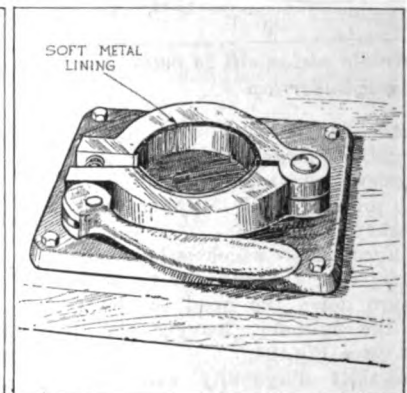
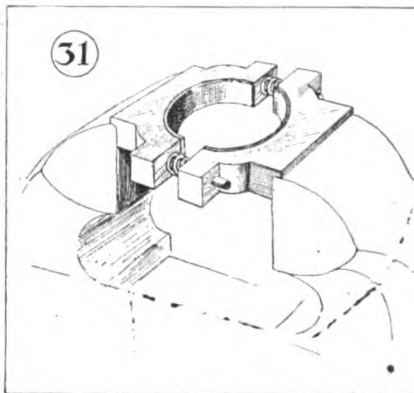
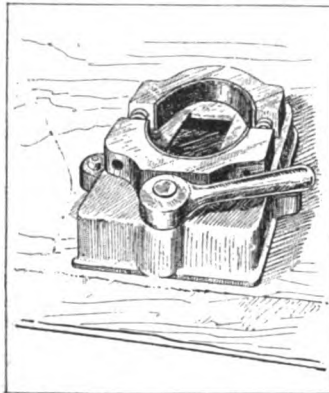


Fig. 31—Three types of piston vise, two to be attached to the bench and one to be used in a regular vise

2—Drive out the bushings with a tool shown in Fig. 27. This is made with the shaft a little less in diameter than the diameter of the piston pin and the diameter of the collar a trifle less than the outside diameter of the bushing. It is preferable that the whole tool be made in one piece, turned down to size.

3—If an arbor press is available, a similar tool and jig can be advantageously used.

4—Drive in the new bushings with the same tool and jig.

5—Ream the bushings to the correct size with the piston bushing reamer shown in Fig. 28.

#### 8—Aligning the Connecting Rod

The two holes in the connecting rod must be parallel both ways to insure

perfect operation of the engine. Twisted rods cause a great deal of trouble, rapid wear and noisy engines. All rods, new and old, should be tested before assembling the rod in the piston. A testing and straightening jig used and recommended by the Ford Motor Co. is shown in Fig. 29. This jig is bolted to the bench on a block so that it is about on a level with the workman's eye.

1—Put the larger of the two arbors through one side of the frame of the jig.

2—Slack the connecting-rod bolts a trifle to allow the arbor to go through the bearing.

3—Slide the arbor through the bearing and through the other side of the jig frame.

4—Tighten the bolts.

5—Clamp the small arbor in the upper hole with the small clamp.

6—Rest the small arbor first against the top test surface to test for parallelism, then against the lower set to test for twist. If light can be seen under one side in either case, the rod must be bent until the small arbor rests evenly down on all four test surfaces.

7—The bending is done with the bending iron shown in Fig. 30.

8—The connecting rod is now assembled to the piston with the piston pin.

9—The piston is clamped in a special piston vise to prevent injury to the surface of the piston. Three types are shown in Fig. 31. Two of these are intended to be fastened to the bench with a hole for the connecting rod to drop

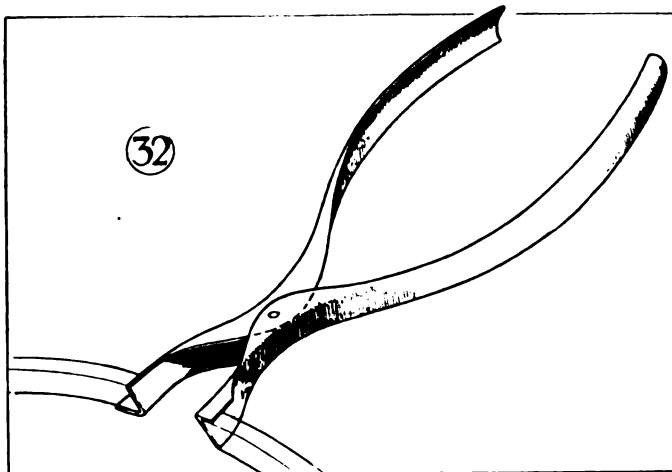


Fig. 32—Piston-ring removing tool

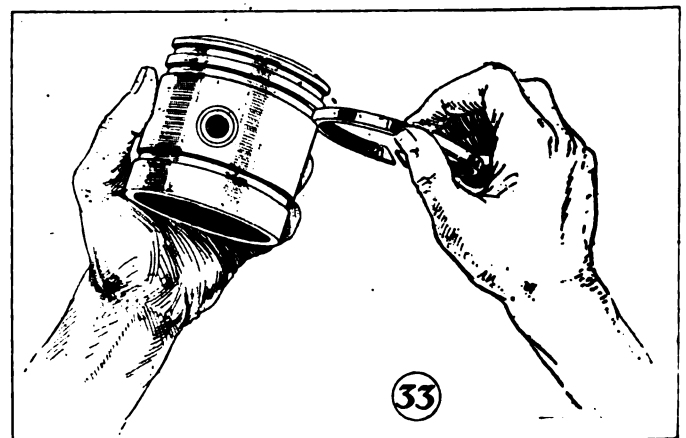


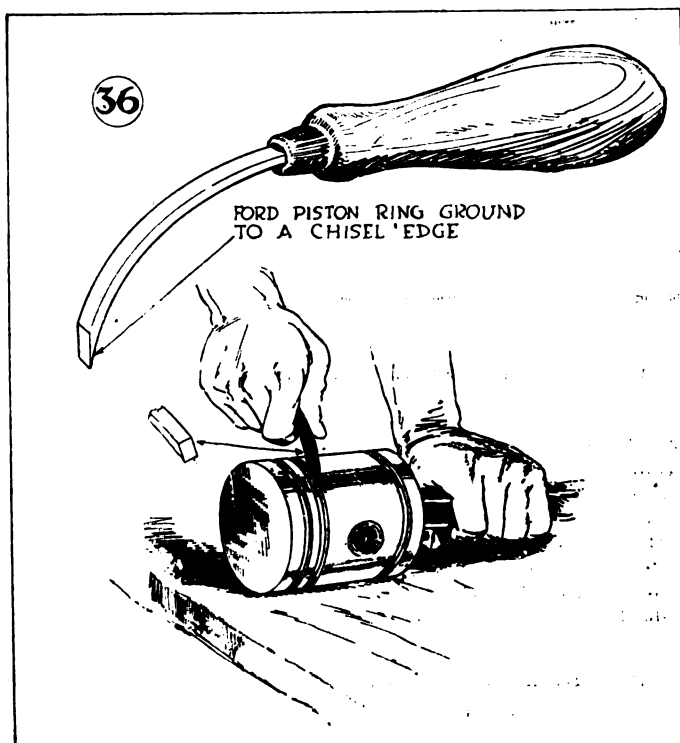
Fig. 33—Fitting the rings to the piston





Fig. 34 (Above)—Grinding down the ring edges.

Fig. 36 (Right)—Home-made tool for cleaning ring groove



through when the piston is clamped right side up for working on the piston rings, and the other type fits in a regular machinist's vise. The faces are lined with babbitt or soft metal to prevent injury to the piston or rings.

10—Push the piston pin through the bushings and upper hole in the connecting rod.

11—Center the piston pin so that it will not extend to the outside of the piston when the rod is slid sidewise to touch either boss.

12—Tighten the piston-pin clamp screw.

13—Insert and spread the cotter pin. The connecting rod should swing freely in the piston but should not have any lost motion up-and-down. It is very easy to confuse side motion with up-and-down motion, especially if the piston pin is well oiled. The connecting rod should be grasped firmly in the hand to make the test.

It is not advisable to attempt to re-babbit connecting rods as they can be obtained from Ford branches cheaper and better than you could do it.

#### 9—Fitting the Piston Rings on New and Old Pistons

Piston rings can be slipped on and off the pistons by using any one of a variety of methods, but the piston ring expander shown in Fig. 32 is the quickest and easiest to operate. If the piston is new:

1—Fit each ring to the groove and to the cylinder that it is to occupy. Fig. 33 shows the method of fitting the rings to the pistons. Work the ring around the groove. It should fit freely all the way round.

2—If there are any high spots, they are removed by rubbing the ring on a piece of emery cloth mounted on a flat board as shown in Fig. 34 or on a surface

plate with grinding compound on it. The fit should be free but not too free. The rings must not be mixed after fitting.

Note—All rings now made by the Ford Motor Co. are slightly tapered on the outside to prevent pumping oil up into the combustion chamber. The small diameter goes to the top. The edge with the smaller diameter is marked on the inside by a light cold chisel mark as shown in Fig. 35. *This chisel mark must go to the top of the piston.*

3—The ends of the rings are now filed down so that the rings will fit into the cylinder.

4—A piston without rings is placed in the cylinder.

5—Push one ring down above it.

6—Raise the piston to square the ring in the cylinder.

7—File the end of the ring till the clearance between the ends is about .004 in. or a little more than the thickness of the paper that this is printed on.

8—Assemble the rings on the pistons with the chisel mark up.

9—Where old pistons are used, the ring grooves are first cleaned out, removing all accumulations of carbon. A quick and easy way to do this is with a tool shown in Fig. 36. This can be made from an old piston ring or can be forged from tool steel so that it will retain its edge longer.

10—New rings are fitted the same as in the case of a new piston.

## The Next Installment of MODERN METHODS IN FORD SERVICE

*Will Appear in Next Week's Issue*

IT will deal with burning in the bearings with a burning-in machine. This most up-to-date equipment will save many dollars on every job. A more perfect bearing in a fraction of the time required by hand work will appeal to every garageman. It will describe a considerable number of devices for saving time, doing better work and insuring more perfect jobs. Future installments of the article will deal with overhaul operations on all parts of the car including the rear assembly, etc.

READERS are invited to write us concerning any points that they do not understand. Be sure to give us your name, address and the garage you are connected with.



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2170—KEEPING FORD FENDERS TIGHT

Front and rear fenders on Fords are prevented from working out on the fender iron by removing the fenders, threading the end of the iron and putting a nut on after the fender is in place. This nut will draw the fender up tight by pressing against the regular Ford clamp.—Shern & Albertson, Clear Lake, Wis.

## No. 2171—SWINGING A PORTABLE LAMP

A portable lamp may be hung in any desired position over the car or other work by the use of two ordinary window-shade stop pulleys and a few yards of shade cord. One pulley is fastened overhead and to one side of the work and the other is fastened to a wall or post lower down on the other side of the work. The lamp is secured to the center of the cord and by shifting the cord on the two pulleys the lamps can be brought in almost any position.—Frederick A. Kissner, New York City.

## No. 2172—INSTALLING FORD STARTING CRANK BUSHING

A new Ford starting crank bushing is drawn into place by inserting it as far as it will go by hand, then putting a bolt through the bushing from the front end, a washer being placed under the head so as to catch the front of the crankcase front bearing. A nut and washer are put on the other end of the bolt and the bushing drawn into place by screwing down on the nut until the bushing is flush at the front end.—S. Buckman, Wentringham & Mitchell, Havelock, Marlborough, New Zealand.

## No. 2173—BUILDING UP BATTERY POSTS

Pillar posts on storage batteries are built up by using a "post cup" made of cast iron. This cup fits over the stump of the old post and a new post is built up in the hole with an oxy-acetylene torch. The cups are made in four or five sizes and shapes to fit the different makes of batteries. An Exide battery requires two tapered cups as the positive is larger than the negative. The Willard battery uses a straight cup and both posts are the same size.—R. McFarland, Spillman's Garage, Newark, Ohio.

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

all joints of the manifold and the flange where the carburetor is attached. If there is even a very slight leak, there will be a thin line of smoke drawn in with the air as soon as the punk is brought near the leak.—Hugo Engel, New Braunfels, Tex.

## No. 2176—SAVING THE WORK BENCH

Wear and tear on wooden work benches is largely eliminated by placing a pad on the bench. This pad consists of a cast-iron disk hollowed out in the center to hold lead which is melted into it. When the lead becomes too much battered from hammering, it is simply melted and re-cast.—Autocar Co., New York City. (From *Commercial Vehicle*.)

## No. 2177—BATTERY POST DRILL

A twist drill with a square shank can be made into a very efficient battery-post drill by grinding off the two lips, as shown in the illustration, leaving a small tip at the center which leads the drill straight and makes the use of a center punch unnecessary. The clearance on the cutting edges should be greater than for harder metals so that the drill will cut faster. The size should be  $\frac{3}{8}$  or  $\frac{1}{2}$  in.—V. M. Roberts, Mulberry Grove Auto Shop, Mulberry Grove, Ill.

## No. 2178—USING A JACK UNDER A TRUSS ROD

When an axle truss rod interferes with the use of a jack, the difficulty may be overcome by putting a piece of U-section metal on top of the jack so that the truss rod goes through the U and the legs of the U bear on the axle housing.—Clemens Roeske, Chicago.

## Burning-In Bearings

*will be treated in the next installment of the*

## MODERN METHODS IN FORD SERVICE

This comparatively new way of fitting bearings will enable you to produce twice as good a job at a very much lower cost to you. **MORE PROFIT AND BETTER WORK.**

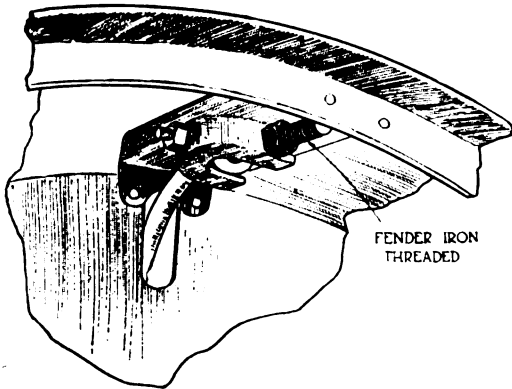
## No. 2174—EMERY PAPER HOLDER

Emery paper is made always accessible and kept in good condition by rolling it on spools and setting these in a small stand. This stand is small enough to be placed conveniently on the bench or garage floor.—Autocar Co., New York City. (From *Commercial Vehicle*.)

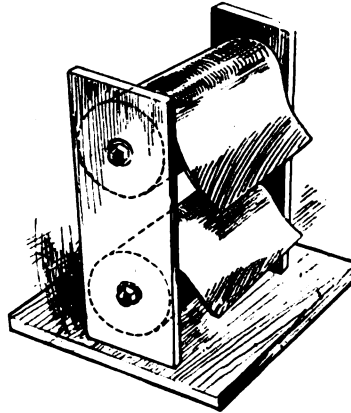
## No. 2175—LOCATING INTAKE MANIFOLD LEAKS

Intake manifold leaks are quickly located by the use of a piece of smoking mosquito punk. This is moved around

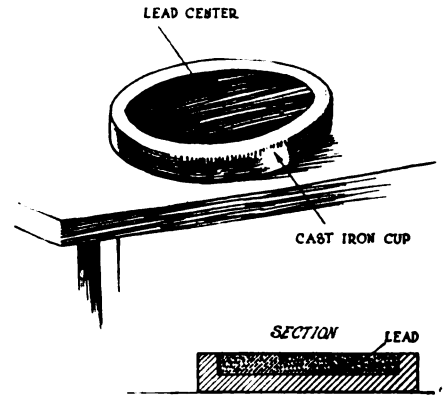




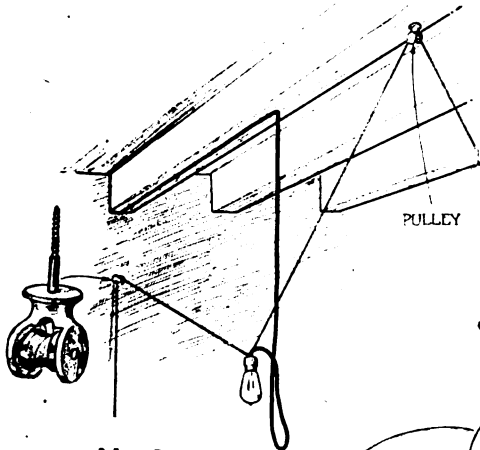
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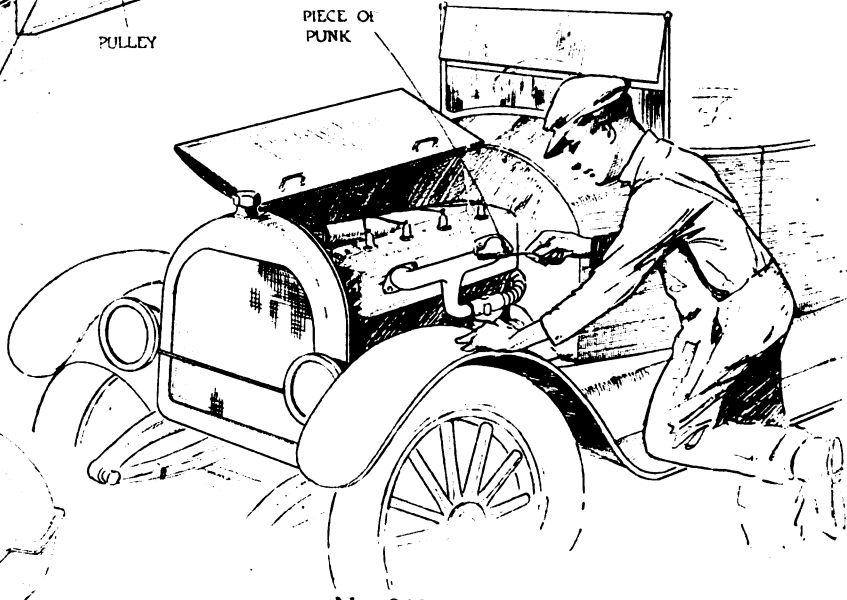


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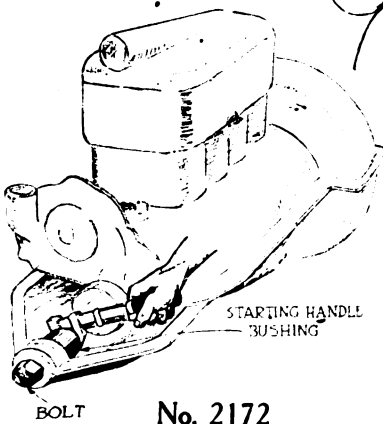
PIECE OF PUNK



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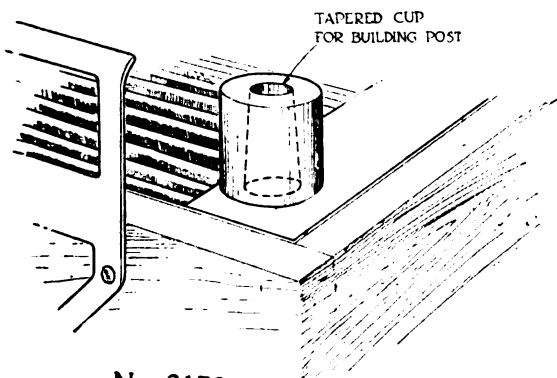


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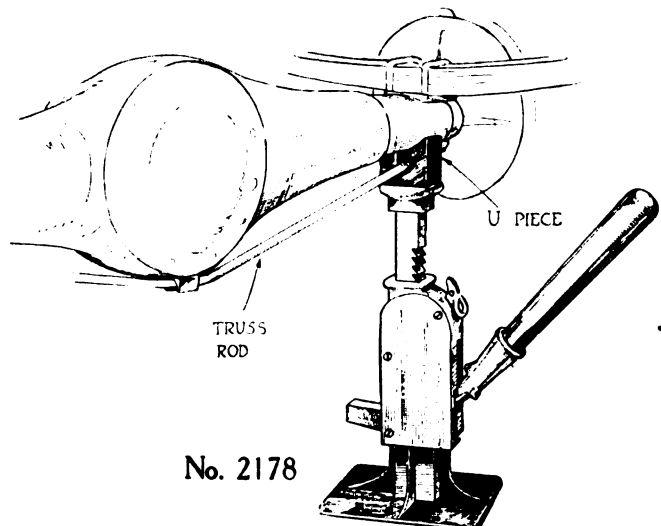


No. 2172

BOLT



No. 2173



No. 2178



# Editorial Observation

## The Man Who Waits for Price

SIX MONTHS ago one of the biggest obstacles in the way of sales was the belief on the part of the public that motor car prices would fall. A few dollars were cut off some prices immediately after the armistice was signed, and so the public reasoned that, figures having started downward, they would continue.

But the prospect who waits for a lower price may find himself sadly awakening some day to the fact that he has done two things. He has left himself without a new car for months and in the end has had to pay a higher instead of a lower price. The facts in this editorial may be used to advantage with such prospective buyers as believe prices will fall.

At the outset let it be understood that the price cuts made about January 1 and before were not real cuts. Advances had been made during the early fall to take care of the "war basis" production that was demanded after January 1. Cars were being sold in October and November at prices which really were not called for until January. But, as a wise business move, the price was put up early in order that a "100 per cent war basis" might be reached as soon as possible.

It was as though a man said: "I will put \$100 in the bank to provide for myself when I lose my job January 1." Then, if he found he wasn't going to lose the job he could spend the \$100. Which is what happened in car prices.

Then, manufacturers, finding this price idea prevalent, announced publicly that they would guarantee prices for varying periods, many of which periods are now drawing to a close. Wherefore, many prospects again believe that prices will fall this summer.

Motor World has investigated this situation. Inquiries have been made of all manufacturers as to whether they intend to change their prices July 1. About 85 per cent of those addressed replied, and among them are some of the largest, although a few of the biggest producers did not make definite statements.

The replies received are unanimous. They state that prices cannot come down. They are based upon materials and labor, and unless these commodities fall prices cannot be reduced.

Many of the letters are signed by old and experienced production men. They say that if things keep going the way they are now, HIGHER and NOT LOWER prices may be expected. Not one of them seems to see any change for lower prices.

One manufacturer says there won't be any reduction in HIS prices THIS year or NEXT year.

Another says his prices of to-day will remain in effect "for several months anyway."

Another states: "No revision will be made in our prices. Labor is higher to-day than at any previous times. A few articles have been reduced in price, but some have advanced. At the present time we can see no reduction in list prices."

Still another states that his present models are all

made and sold and shipped, and that when the new model comes along in a short time with some refinements and improvements it will be \$100 HIGHER than the present car.

Several have guaranteed prices until January 1, and another says he won't reduce UNTIL THERE IS A RADICAL REDUCTION IN THE COST OF LABOR AND MATERIAL. You can set your own dates for the reduction in labor and materials. And don't forget this, that cars are nearly all labor in the last analysis.

"For your information," says another, "we do not contemplate any change in prices for the next twelve months at least."

"It is our very firm belief," asserts another old company, "that our present prices will be maintained until January 1, 1920."

And one of the most popular lines issues this statement: "In spite of the increased cost of labor and the difficulty in obtaining materials in sufficient quantities, we expect to HOLD TO OUR PRESENT PRICES. If costs are still further increased, however, it may be necessary within the near future to ADVANCE OUR PRICES PROPORTIONATELY."

Similar in tone is this from another: "If there should be any change made it would undoubtedly be AN ADVANCE RATHER THAN A DECLINE. We find under present conditions that the demand is for quality and service rather than a reduction of first cost."

One maker, whose name has been before the industry for years, says: "It is our opinion that there will be no revision downward, but that the trend is rather upward."

Paragraphs like these could be written over several pages, but they would tell no more than is already told. Labor and materials, the foundation of the product, are not likely to tumble very far, as every one knows, so there isn't much chance of reduction.

There are of course possibilities of lower prices in the lists of certain lines. A big producer may effect a slight reduction because of the quantity production he may attain, but he can't get into his old stride as rapidly as some people think, and, even if he does, these decreases in price because of increased production cannot be proportionately great and, at that, they may be entirely wiped out by increases in labor and materials. The chance is small for reductions on this score.

Makers may add new models and bring out cars at lower prices, but, if they do so, the cars can't be much better than other cars of approximately the same price.

Price is governed absolutely by materials and labor. Production and efficiency as price makers have been in effect for several years, and not much can be expected from them.

We probably shall not see cars at much lower prices than now for many, many years, and, many keen thinkers believe, never in the present generation.

Why wait? Buy NOW!





*Exterior of the Nelson showroom in Champaign*

## From Groceries to Automobiles

### *How the Nelsons Make Each Car Sell Four More*

**A**FTER conducting for 36 years what was regarded as the best grocery store in Champaign, Ill., Ahi Nelson has sold out and with the aid of his sons is selling motor vehicles exclusively. The eldest son, Bert C. Nelson, suggested 2 years ago the idea of taking the agency of an automobile, believing that he could make such a side line profitable, and the parent approved.

A rear room of the store was utilized as a showroom. After taking an order from a customer for groceries, the subject of a motor car was broached. Tactfully, a demonstration was suggested. Most of the patrons dismissed the idea as a joke but later, in most instances, they would agree to a ride.

#### **Demonstrations in Dull Moments**

The junior member of the firm would devote the dull portion of the afternoon to the demonstrations. It was not long until he began to report some sales, and the father, who was at first inclined to be skeptical regarding the proposition, was forced to admit that the son was right.

At the outset, the Chandler car was distributed, but later, the Milburn and Rauch-Lang electrics were taken on. Gradually the number of sales increased until now the firm ranks as the leading

retail distributor of Milburns in the United States, while it has sold a large number of Chandlers.

A branch agency has been opened in Peoria and a younger son, Harry Nelson, placed in charge. Two other sons, Clarence and Arthur, have become allied and now the father and four sons are working together. Clarence is head mechanic and has charge of the service department and looks after all adjustments. The father and other three sons are salesmen.

A few months ago the grocery was sold, as it was found that more money could be realized from the sale of motor vehicles in one month than in a year from the grocery store. An agency has also been opened at Bloomington and other extensions of the operations of the firm are under consideration.

The firm has set a high standard and is beginning to attract attention due to the large volume of business handled. Their methods are out of the ordinary. An effective ad is a small booklet upon the cover of which appears the line, "What we Say about our Competitors." The interior pages are blank. The slogan of the firm is to make each car sell four more, and every buyer is given consideration long after the car has been delivered and every effort made to con-

vert that buyer into a booster for the firm of A. Nelson & Sons.



*The California Automobile Trade Association has adopted this emblem which is being given wide display by the members. It is carried on members' cars, shown in windows and other places. Over the secretary's signature appears the following statement, "If you will deal with a firm displaying the above emblem, the California Automobile Trade Association, consisting of over 2500 members, will guarantee you fair treatment."*



*Ahi Nelson and his four sons who used to conduct the best grocery store in Champaign and who now aspire to a similar position in the automobile selling world*



# SHOOTING TROUBLES

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Two Kinds of Ether

Editor Motor World: I am going to ask you for a little information on how much ether to use in 5 gallons of gasoline.—William Greenham, Hackettstown, N. J.

Answer—In the first place, we are unable to give you any definite information on this point unless we know for what purpose you want to put the ether in the gasoline. There does not seem to be any advantage in adding ether to gasoline excepting to make starting easier in cold weather. There are two kinds of ether, one called sulphuric ether, which is a chemical prepared from sulphuric acid and alcohol, and used as an anesthetic for operations. This ether is very inflammable, and evaporates very easily and is often used for starting stubborn engines by introducing a teaspoonful in each cylinder in very cold weather. As soon as the engine takes a few explosions the interior walls of the combustion chamber are warmed up a little bit, and the engine will run on ordinary gasoline. The other kind of ether is petroleum ether, which we understand is being marketed by a number of the larger oil companies, and this is simply a very high-test gasoline, which evaporates much more readily than the ordinary automobile gasoline, or even than benzine. It is usually sold in small cans containing about half-pint and is used in very much the same manner as the sulphuric ether for starting in cold weather, but the petroleum ether is very much cheaper, and therefore more desirable for this purpose. If this does not answer your question, please send us more complete details as to just exactly what results you expect to attain by using ether in the gasoline.

In the early days of automobile and motor boat racing it was considered quite a smart trick to put various ingredients in the gasoline to give the engine more power and make the car or boat run faster during the race, but with a more thorough understanding of fuels and carbureters, it is generally agreed that the gain is little or nothing.

## Front Wheel Alignment Puzzle

Editor Motor World: On a Cole Roadster, is it possible for one front wheel to be out of alignment without affecting the other front wheel, causing the right tire to wear prematurely and not show any signs of wear on the left front tire? One of our customers owns the above car, which we have tested and find that the front of the tires toe-in more than the permitted  $\frac{1}{4}$  in., to this we have attributed the fact that the right tire

wears prematurely, but our customer wishes to know why it is that the other tire does not show any wear. We have endeavored to explain to him how one tire can wear before the other, but he being of a mathematical turn of mind, we have been unable to reason the matter out in an everyday common sense way, so have turned to you in the hopes that you would be able to help us to explain to him in mathematical terms how it is possible for one wheel to be out of line, wearing one tire, without affecting the other.—W. E. Diggle, Jr., Fisk Rubber Co., Charlotte, N. C.

Answer—It is quite possible for tires to wear unequally on the front wheels, as you have experienced. There are two possible ways in which this unequal wear may happen. Of course, it is obviously impossible for one wheel to be in line and the other out of line, because the alignment is simply a relation between the two wheels. Therefore, assuming that the wheels are out of line compared to each other, one theory would be that there is more weight on the left wheel, and therefore the left wheel is kept in a straight line by the steering gear, and it does the steering, while the right wheel, which carries less weight, does the slipping and therefore the tire wears out faster. It would be quite easy to prove the correctness of this theory by weighing the two wheels separately, that is, with everything in place the way the car is ordinarily driven, driver in the seat, etc., run the right front wheel onto a platform scale, and accurately weigh it, then do the same with the left wheel. As the drive is on the left side, and it is quite probable that the driver is alone a considerable amount of the time, this would seem to indicate that there is more weight on the left side of the car, and consequently on the left front wheel.

If this theory is not proved correct by the use of the scales, then the only other possible way that we could think of that this might happen would be where a non-skid tire was used on the left side and a smooth tread on the right side. Obviously, the non-skid tread would keep to the road, and do the steering, and the smooth tread would do the slipping and consequently take the wear. Of course, if you line up the wheels the way they should be lined up, neither of the tires will show any wear from this cause.

## A Bouquet from Tasmania

Editor Motor World: I must congratulate you on the way in which you run your paper, the Motor World.—G. Charlton Rudge, Latrobe, Tasmania.

## Helps Them in Their Work

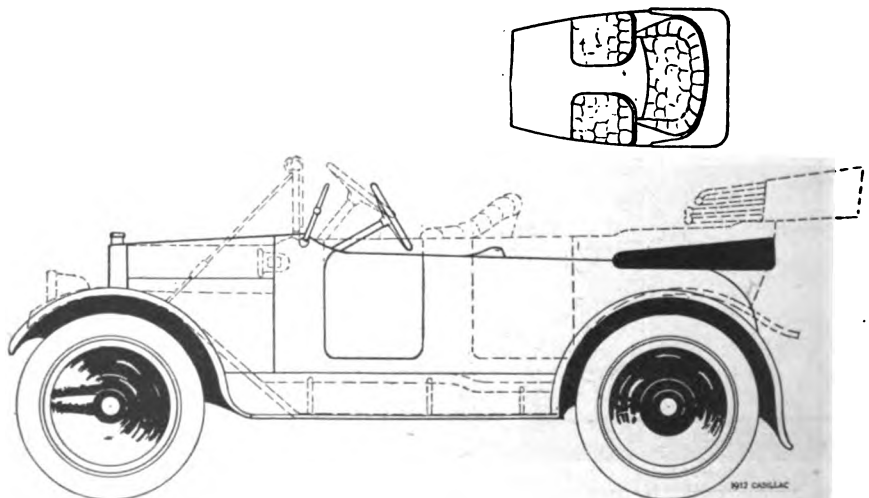
Editor Motor World: We have been constant readers of Motor World for two years, and could not get along without it, as nearly every issue contains something that helps us in our work at some time.—Stents Garage & Machine Shop, Fairview, Ill.

## Helps Business

Editor Motor World: I have been a reader of Motor World for several years, and I wish to say that it has been a great help to me in my business.—John F. Duby, Dorchester, Mass.

## Changing to a Cloverleaf

Editor Motor World: Will you please illustrate a design for making a Cloverleaf body from a 1912 Cadillac touring car?—Toby Hook, San Rafael, Cal.



Design for a Cloverleaf body requested by Toby Hook



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

### A Narrowed Front

*Character of business—Sales, service, storage.*

*Details wanted—Two story building on lot 150 x 66 ft., with front part 48 ft. wide, 70 ft. back, then full width, salesroom, store, entrance in front and side, shop on second floor, elevator, wash rack, battery room.*

*Name—F. S. Hertz, New Philadelphia, Ohio.*

**Answer—**We have drawn a plan for a two-story garage on the size plot that you have indicated and according to this arrangement the total capacity of the garage would be 48 cars for storage. This would not include any cars that were in the shop, those in the show room or on the wash racks.

You will notice that there is a double row of cars both on the first and second floors and the six cars in the back row of the first floor cannot be moved until the cars in front have been taken out. Arrangements would, of course, have to be made to store only the cars which go out late in the back row and the same rule

applies on the second floor, but there are always a certain number of cars that are more or less dead storage and these cars could be put in the back rows.

To keep things from moving slowly, it would be best to have the front driveway for driving in only and the side driveway to the alley used as an exit only. This would prevent confusion. You will notice that there is a dumbwaiter from the parts and accessories stock room on the first floor to the tool room and parts room on the second floor. The parts most used in repairing and service work are kept on the first floor. However, should parts be required on one floor that are kept on the other they can be sent up or down, as the case may be, by using the dumbwaiter.

Two windows are provided on the first floor, the front window being used for sales over the counter and the rear window being used by the garage.

If you require room for storage of more cars than is provided in the plan you can make your shop or show room smaller and put in six or eight more cars. On the other hand, should you want more shop room it will have to be at the expense of storage space.

While the battery room has been placed at the front of the building on the second floor in order to secure better light, there is no reason why it should not be placed back against the tool room if it is more desirable to have light in the shop proper.

The division between the shop and the rest of the garage on the second floor need not be a solid wall but can be built up of chicken wire simply to keep the shop separate from the storage space.

### Building for Ford Sales and Service

*Character of business—Ford sales and service, tire sales, parts and accessories.*

*Details wanted—Corner lot 80 x 80 ft., room for service on 200 cars intermittently, town of 2,500 population, with one other garage. Want to know the best height of ceilings and whether 20 per cent is too steep a grade for a ramp.*

*Name—A. E. Clovis, St. Marys, W. Va.*

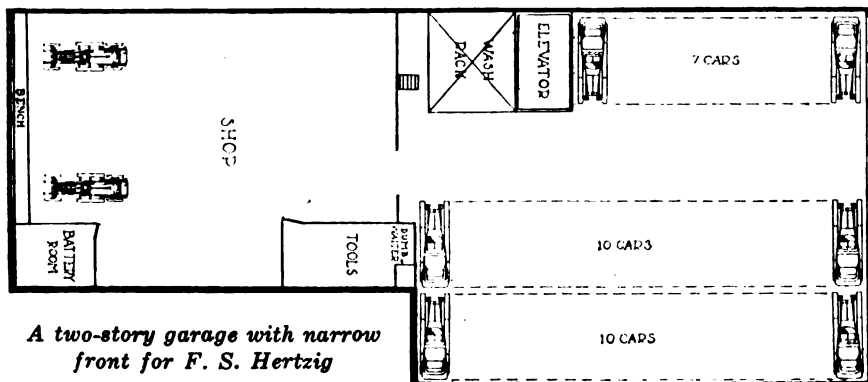
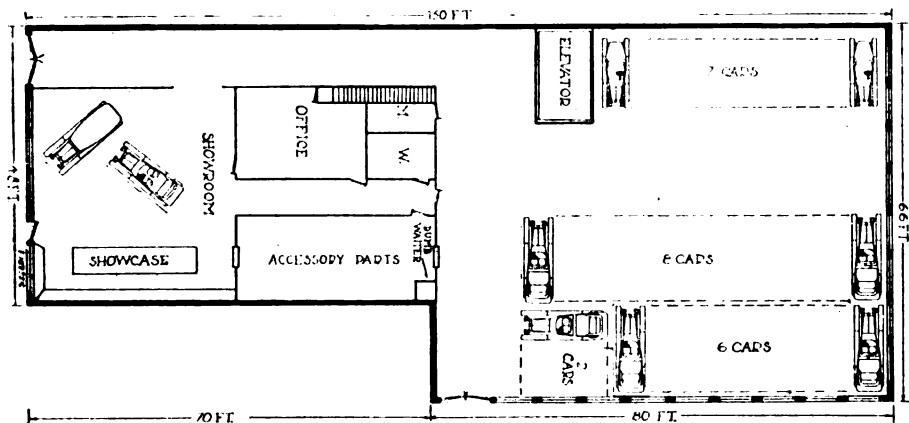
**Answer—**We believe that your plot is plenty large enough for your purpose.

The plan which you have submitted has some good features, but there are also several objections to it and perhaps the best way to explain the advantages of the plan which we are printing is to state the objections to yours. The storage space on the ground floor is too narrow for reasonable convenience in storing two rows of cars and the storage space on the second floor is badly broken up. At the same time the arrangement of showroom and shop units is not as neat as it might be and according to the plan the paint shop can only be reached through the repairshop.

Examination of our plan will show that many more cars can be stored and that the arrangement of all departments is compact and convenient.

The battery department was placed under the ramp because there was no other particularly suitable place for it and also because there was no other use for this space, which is hardly high enough to store cars. In order to obtain full head room at the lower end it is advised that the floor in this room be sunk a foot or so.

There is no front entrance driveway on our plan because it would only be an encumbrance with the car arrangement which we find is best. Also its elimination means that the full frontage space may be given to display purposes.



*A two-story garage with narrow front for F. S. Hertz*



It should be obvious that if you want to have a larger accessory store and stock room, these two may be enlarged by reducing the size of the showroom and moving the offices to the right as much as desired.

There is a dumbwaiter connection between the accessory stock room and the parts room upstairs so that steps may be saved.

Twenty per cent grade is a little steep, although it is used to some extent. Fifteen per cent is the most desirable and this is the slope we have used.

Fifteen feet is about the best distance between floors.

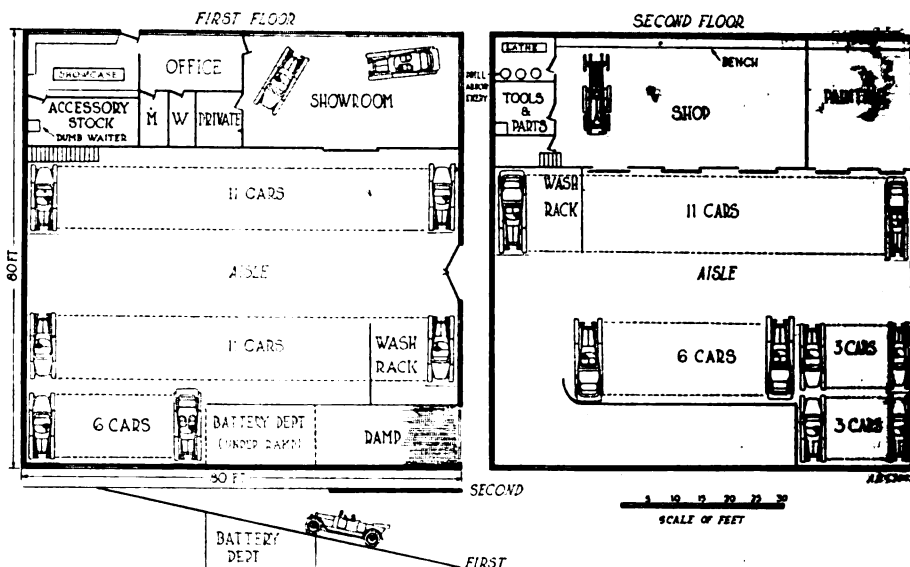
### An L-Shaped Building

*Character of business—Storage, service sales.*

*Details wanted—Lot L-shaped, 130 ft. deep, 100 ft. wide, 38 ft. on main street, main garage on second floor, quick service jobs on first floor, offices, showroom, parts and stockroom.*

*Name—James L. McNair, Laurinburg, N. C.*

**Answer—**Your building is a particularly difficult one to lay out to the best advantage in so far as storage is concerned. The general arrangement of the first floor has been left nearly as you suggested, but we have moved the show cases and wall cases across the showroom to get them as near the stockroom as possible so that parts and stock kept in the stockroom can be handled through a window and sold over the counter. A window at the rear under the stairs is for the distribution of parts to the shop on the first floor. We have placed a dumbwaiter in the corner to supply the shop on the second floor with parts that are needed for repairs. If there is a great deal of repairing done here, it would pay to have another stockroom on the second floor and separate the stock in such a way that there would be a minimum of



*A building especially designed for Ford sales and service for A. E. Clovis*

hoisting up and down on the waiter.

For the purpose you have in mind, that is, a quick repairshop downstairs and a shop upstairs, there is hardly room for more than 20 cars at the most and some of these will have to be put in at a slant. The two in the corner would have to be those that come in early and go out late.

The elevator should have two doors, one to the outside of the building so that cars can go directly from the street onto the elevator, and another inside that will permit cars to be driven from the shop on the first floor onto the elevator without the necessity of going outside.

### From Across the Seas

**Editor Motor World:** I have been a subscriber to your valued publication, Motor World, for several years and have found it a most valuable educator and helper in carrying out my duties as service and sales manager.—Arthur T. Barron, Nattrass & Herris Motor Co., Ltd., Wellington, New Zealand.

### Keeping Up With Progress

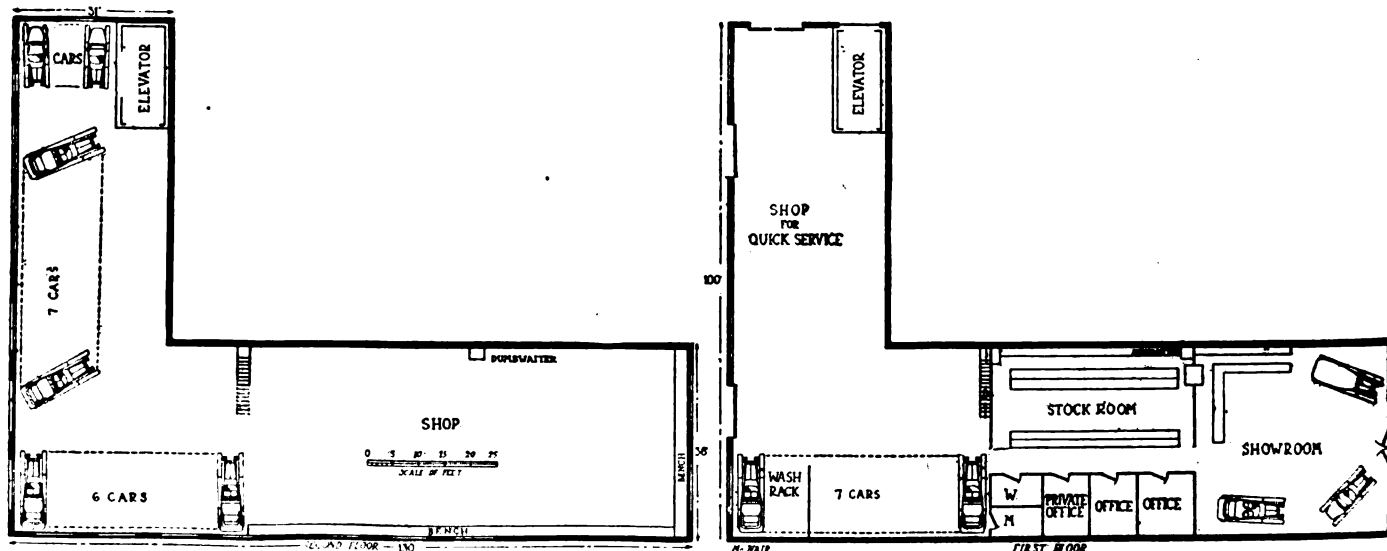
**Editor Motor World:** Your magazine has always been a great help to me in keeping up with the progress of the automobile business.—George D. Stacy, North Yakima, Wash.

### Enthusiasm from Cover to Cover

**Editor Motor World:** Your magazine is surely a wonderful help and inspiration to the small-town garageman who sometimes grows discouraged. But every week Motor World arrives with enthusiasm from cover to cover.—J. J. Walker, Salem, Ohio.

### Part of His "Equipment"

**Editor Motor World:** Enclosed please find check for \$2. Start sending Motor World at once to the address below. Motor World is an indispensable part of my equipment.—Junius S. Wade, Augusta, Ark.



*An L-shaped building on a lot 130 ft. deep for James L. McNair*



# The RETAIL NEWS

## MIDDLE WEST

C. H. Clemons, Weldon, Ill., has completed a new garage, 64 x 120. He will do a general storage and repair business and conduct a sales agency and accessory store.

Pierce & Caldwell, Decatur, Ill., have opened a garage which has been remodelled from the New England building. The structure is of two stories. An elevator has been installed. The firm will do a general repair and storage business and later may conduct a sales agency.

Axel Christopher and F. E. Harvey, Moline, Ill., have formed a partnership, and opened a garage and sales agency at 409 Thirteenth street. Branches will be opened later in East Moline, Rock Island and other points. The firm will be distributors for the Oldsmobile cars and trucks.

C. H. Nickey, Springfield, Ill., has opened a garage and sales agency at 311 Monroe Street. He will be distributor for the Paige cars in the Sangamon, Menard and Logan counties territory.

William Walters and Morris Cohn, Danville, Ill., have organized the Independent Tire Co., and will operate a tire and accessory store at 103 East North Street, and will also do a vulcanizing business.

E. L. Garing, Davenport, Iowa, has opened a tire and vulcanizing shop at 508 Harrison Street.

M. W. Edlund, Moline, Ill., has taken the agency for the Prest-O-Lite batteries and opened a service station at 313 16th Street.

Auto Supply and Accessories, Elgin, Ill., has opened a store at 2 N. State Street, this city, and G. F. Eby has been appointed manager. Another store is to be opened at Joliet, Ill., at the corner of Joliet and Van Buren Streets and J. A. Kremer will be the manager. The main store at Aurora, Ill., will continue under the management of E. H. Robinson.

Dan C. Bickel, Galesburg, Ill., has been appointed manager of the Midwest Tire and Sales Co., and a sales and service station has been opened at 49 South Street.

E. D. VanArsdel, Galesburg, Ill., has taken the agency for the Oakland and Liberty cars, as well as Reo trucks for Knox county.

William D. Anderson, Moline, Ill., has opened an accessory store under the name Moline Auto Supply Co., at 1604 5th Ave. He was formerly with the Moline Universal Tractor Co.

## SOUTHWEST

Mexico Tractor & Implement Co., Mexico, Mo., has opened for business. Chas. H. Braden is manager.

K. A. Smith, Hot Springs, Ark., will erect a \$10,000 filling station in the near future.

S. M. Lyon, Ottawa, Kan., has opened a new battery service station.

E. P. Houser, Ottawa, Kan., has opened a new service station. He also handles a line of automobiles.

Southwest Tire Co., Springfield, Mo., has opened for business.

A. D. Herbel, Hunter, Kan., has opened a repairshop.

Walter Towner, Marquette, Kan., has opened a repairshop.

Thomas Burch, Manhattan, Kan., has secured the agency for the Liberty motor car and will establish several sub agencies.

Noyes-Montgomery Motor Co., Hutchinson, Kan., is moving to new quarters, and will have more than three times the original floor space. This company is agency for the Oakland, Premier and International trucks.

E. E. Wood, Montgomery City, Mo., has recently opened a Gates Half-Sole tire service station.

E. N. Schriber and J. M. Baker, Eldorado, Kan., have secured distribution for the Oakland motor car in the northern half of Butler county.

Richmond Tire & Repair Co., Richmond, Mo., will soon be opened in the Hughes Building. Wm. Schaub will be the manager.

Economy Car Appliance Co., Tulsa, has been chartered with \$100,000 capital by John D. Fallyer, Seymour, Mo., Samuel A. Boorstin and E. J. Taylor, Tulsa.

Richmond & Alder, Seguin, Texas, have opened a vulcanizing and repair shop on W. Center Street.

S. B. and J. W. Webb, Dermott, Ark., plan to erect a new \$20,000 garage.

J. G. Wright, Lincoln, Nebr., sales manager for the Wittman Battery Manufacturing Company, will open a branch of the company at Guthrie, Okla.

Houston Motor Truck Co., Houston, Texas, has moved into the new quarters, which constitute the largest exclusive truck salesrooms in Houston. F. E. Wilson is manager.

E. M. Wilhoit Oil Co. is erecting a modern filling station at Springfield, Mo. The building will be brick, trimmed with stone.

Temple Motor Co., Wichita, Kan., has been purchased by Fouts and Harvey of Eldorado, who will open a modern garage and service station in the near future.

H. Harlow, Union, Mo., has opened a repairshop.

McClelland-Gentry Motor Co., Oklahoma City, is making plans for the construction of a three-story and basement building of brick.

## PACIFIC COAST

Durham & Strider have opened a repairshop at San Anselmo, Calif.

Stoll Bros. have opened a repair shop at 218 S. Broun Street, Napa, Calif.

W. S. Collins has been appointed manager of the Pinole Garage, Pinole, Calif.

Joe Zampetti has added a repair department to his blacksmith shop at Larkspur, Calif.

B. A. Freeiland has opened an Exide battery service station at 232 Main Street, Petaluma, Calif.

Sebastopol Tire & Repair Shop has been established by P. S. Kurth and C. H. Galupie at Sebastopol, Calif.

Brasch & McCorkle have purchased the agency for the Stephens car in Alameda, Contra Costa and Napa counties from W. J. Benson Co. and have established sales headquarters at 3068 Broadway, Oakland.

Scripps-Booth Co. of California has incorporated with Cliff Durant, president, Norman de Vaux, vice-president, A. L. Warmington, treasurer, and C. M. Steves, secretary. The company will operate in the states of California, Washington, Oregon, Idaho, Nevada and Arizona, with headquarters at 2857 Broadway, Oakland. Harry McKnight is manager and G. B. Osborn, assistant manager.

Manning & Sons have purchased the repairshop at 347 4th Street, Hollister, Calif.

Eureka Vulcanizing Works has been established at 422 San Benito Avenue, Hollister, Calif., and will stock salvage tires.

Wilbur Warnock, owner of the San Juan Garage at San Juan Bautista, has added a complete stock of accessories and a battery department.

Normandin-Campen Co. of San Jose, Calif., has established a branch at Hollister with H. Baehr in charge of the sales of Hudson, Velie, Saxon and Chevrolet cars, as well as Republic and Peerless trucks.

Harvey L. Burchell, Studebaker dealer at Salinas, Calif., has opened a branch at Watsonville with his brother, Tom, as manager.

L. E. Rogers, formerly manager for J. H. Jepsen Co., has opened the Rogers Garage at Salinas, Calif., and will handle the Nash, Reo and Dort lines.

J. L. Clark and H. S. Morton have opened an Exide battery station at Salinas, Calif., as the Auto Electric Battery Service.

Charles E. Barnes has purchased the Divisadera Garage, 717 Divisadera Street, San Francisco.

Harry Wolverton, formerly manager of the Oakland, Pacific Coast League baseball team, has purchased the Coliseum Garage at 358 Baker Street, San Francisco.

Ed Morrison has opened a repairshop in the St. Supery Garage, 1530 Tell Street, San Francisco.

Palin Bros. have opened tire salesrooms and a vulcanizing shop at the corner of Exchange Avenue and Third Street, Santa Rosa, Calif. A hydraulic press has been installed.

Davis & Mason have established the Fashion Garage at 17 Main Street, Santa Rosa, Calif. The building is 130 x 120 and salesrooms for Moon cars occupy the street side.

Dave Caro has purchased the American Garage at the corner of California and Locust streets, San Francisco, and installed a repairshop.

Guarantee Garage, 118 x 50 and 36 feet high, has been opened at Petaluma, Calif.

M. A. Joseph has resumed the ownership of the Service Garage at San Juan Bautista, Calif.

## EAST

Bartlett Garages, Inc., Philadelphia, has conveyed to the Foss-Hughes Co., distributor of Pierce-Arrow trucks in that territory, the buildings—two three-story and one one-story brick—at the northeast corner of Twenty-first and Market streets, on a site 221 x 180, for a consideration recorded as nominal, subject to a mortgage of \$100,000 and a ground rent of \$17,200. The deed bears \$85 worth of war tax stamps. The property is assessed at \$400,000.

Joseph J. Greenberg, Philadelphia, is having plans prepared for a sales and service building to cost \$80,000, to be erected at 1408-1410 North Broad Street. The structure will be two stories high, 62 x 200 ft., and will be of reinforced concrete and brick.



Charles Kahn, Philadelphia, is having plans prepared for a sales and service building to be erected at 3304-3314 North Broad Street.

George Stuetzer, Philadelphia, will build a brick garage at Warnock Street and Lindrey Avenue, to cost \$1,270.

H. J. Law, Philadelphia, will build a garage at Sansom and Sixty-first Street.

Empire Garage, Harrisburg, Pa., has opened for business, which includes general repairing, at 677-679 Briggs Street.

Columbia Storage Co., Philadelphia, is having alterations, to cost upwards of \$100,000, made on its building at Sydenham Street and Columbia Avenue.

J. L. Welbley, Harrisburg, Pa., has opened at Fourth and Chestnut streets, that city, a sales and service station for handling the Franklin car and its repair and service work. George Compton Kerr has been appointed manager of the sales department and Boyd Enck, manager of the service department.

#### NORTHWEST

Lieut. A. D. Mead, identified for the past five years with Lahr Motor Sales Co., Overland distributor out of North Dakota, has opened a sales agency for Overland cars and International trucks, operating under the name of Overland-Mead Co., Dickenson, North Dakota.

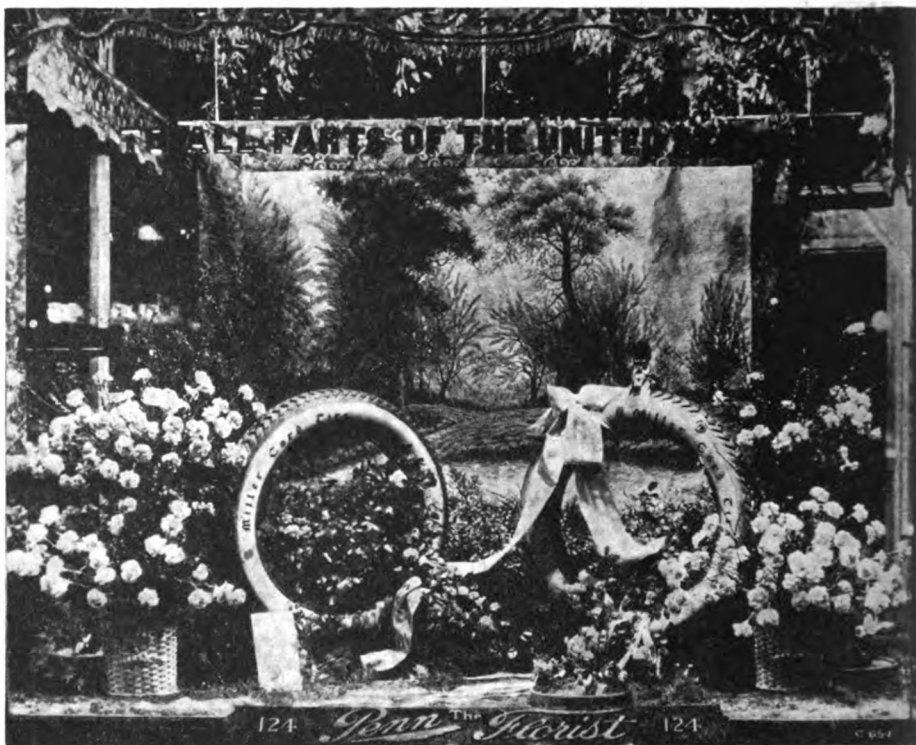
Ross & Son, Onawa, Iowa, have sold their garage to Wilbur Clodfelter.

S. V. Cooney, Malvern, Iowa, has purchased the interest of his partner in the Cooney-Himmiller garage.

Lingo Bros., Norwich, Iowa, have purchased the A. F. Woodward Garage at Shenandoah, Iowa.

Saints Highway Garage, Bedford, Iowa, has been sold to James Salter.

## Tires and Flowers



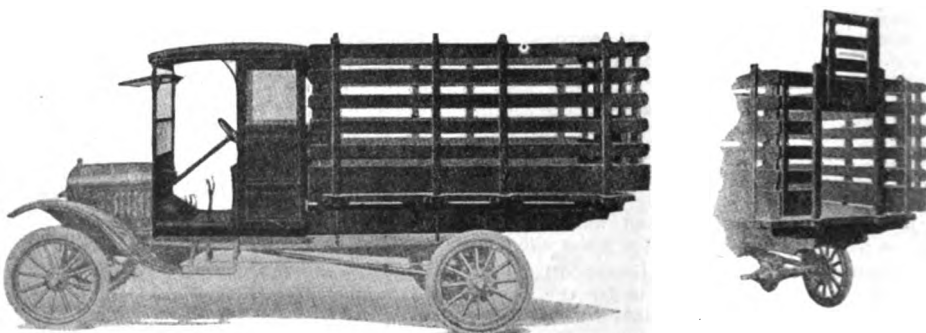
*THAT beautiful flowers and handsome tires make a most happy combination was demonstrated in a recent window display in Boston, arranged by the Boston branch of the Miller Rubber Co., of Akron, Ohio. The placing of automobile tires in the window of a large floral shop was in itself so unusual as to attract extraordinary attention*

## Hercules Bodies for Ford Trucks

COMMERCIAL bodies in a number of different types are being manufactured for the Ford trucks by the Hercules Buggy Co., Evansville, Ind.

The No. 301 body has inside dimensions 94 x 45½ x 12 in. and is furnished with a cab top. The frame includes sub-sills made of hardwood securely ironed and braced. The end gate has three hinges and a full chain drop. It is painted dark green and fitted with flare boards. The No. 301 body with box seat is identical with the previous body, excepting that it has no cab top.

The No. 311 canopy top body with cab has a six post top with splendid roof and curtains. Other models are straight bodies, platform and platform with slat sides and end gates.



*The body shown above has high slat sides and a vertical sliding door in the end gate. This is suitable for cattle. The bodies below are open and covered express, both fitted with driver's cab*

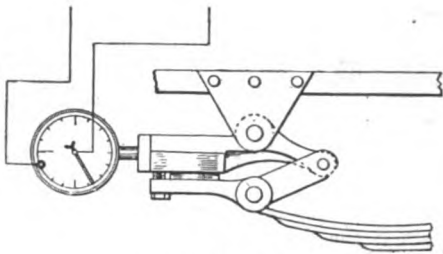




# Automotive Equipment

**CARSAFE LOAD GOVERNOR**

This is a load governor for trucks and consists of two parts, the registering device and the controlling device. The registering device is a casting which takes the place of the usual spring shackle. This casting is especially designed for each type and size of truck. All other parts are standard for all types and sizes of trucks. The registering device consists of two parts. The upper part attaches to the body and the lower part carrying the spring bolt. The operation of the device is by means of a hydraulic system which cuts out the ignition current when the truck is overloaded. In order that ignition may not be interfered with due to road shocks while the truck is running, the device is rendered inoperative while the truck is in motion.—Cammen Laboratories, 42 West Thirty-Ninth Street, New York City.

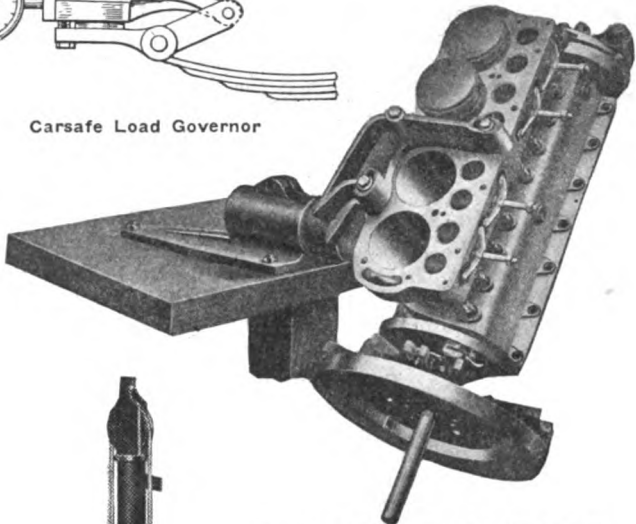


Carsafe Load Governor

special folding arrangement, space is provided for the display of an actual can of the product. State Chemical Co., 656 West Austin Avenue, Chicago.

**O'BRIEN ENGINE BLOCK SUPPORT**

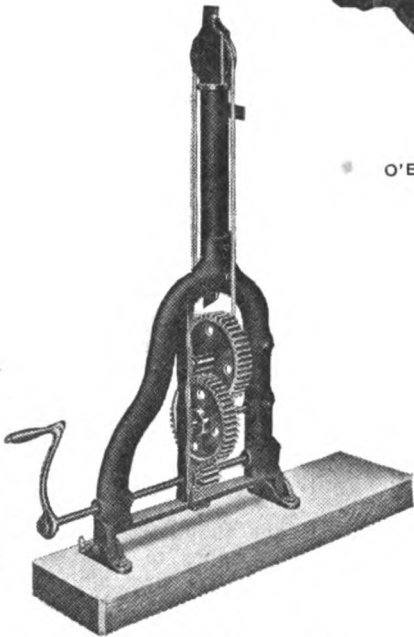
This is an adjustable support for engine blocks, the stationary part of the support being bolted to the bench and the movable part of the support being bolted to the cylinder block. The movable part or support arm is bolted to the engine with the engine-head bolt when removed from the car and the spindle end of the arm then slipped into a box bolted to the bench. No lifting out of the engine is necessary after mounting on the support. The arm with the engine attached revolves on the spindle and can be turned in any position convenient for the work being done and rigidly held there by tightening one screw. The part of the arm that bolts to the engine is offset from the center of its spindle bringing the center of the engine in line with the spindle to balance the engine. The support is rigid enough to allow an engine to be run in with a belt. Price \$18.50 Economy Auto Supply Co., Empire Building, Denver.



O'Brien Engine Block Support

**KING HAND HOIST**

This is a hand hoist for dumping bodies and has a capacity of 4000 lb. The power is transmitted from the hand crank through a train of gears to a cable which runs over a pulley and lifts up the body. As the load is lifted, the hoist gradually falls back toward the body, making the pull always straight. The hoist is shipped complete with baseboard for attaching to any chassis. The holes are bored where required, and the board is bolted to the frame. A space of 11 in. is required back of the seat for the installation of the hoist. Price \$50. Hebb Motors Co., Lincoln, Neb.



King Hand Hoist

**MILLION COMMERCIAL COWL FOR FORDS**

This is a cowl used in changing a Ford to a commercial car, and is made of heavy steel finished with one coat of primer only. It may be painted any color to match the rest of the car. Price \$5. Million Motor Co., Adrian, Mich.



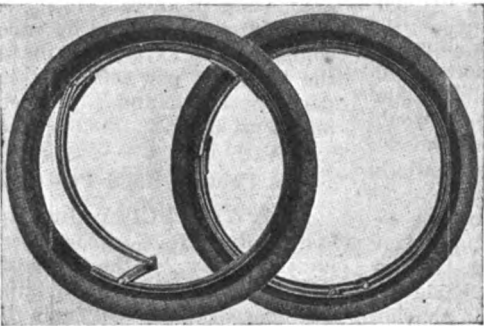
Million Oil Filter

**MILLION CAPILLARY OIL FILTER**

This is an oil filter for removing particles of dirt and sediment from dirty oil so that the oil can afterwards be used for machinery, etc. In operation the oil passes through a series of fine mesh brass wire filter cloth and is then filtered by going over a series of wicks by capillary attraction. Made in two sizes, 30 gal. for garage use, price \$35, and owner size, 10 gal., price \$20. Million Motor Co., Adrian, Mich.

**LIGHTNING CHANGE COLLAPSIBLE RIM**

This is a part to be attached to old rims, converting them into lightning change rims. The parts consist of a strap with a ball and socket joint to be riveted to the rim, thus acting as a hinge, and another strap loosely riveted at both ends so as to permit the rim to collapse when bounced upon the ground. The inner tube must be deflated to allow the rim to collapse. Lightning Change Rim Co., Berrien Springs, Mich.



Lightning Change Rims

**SPEE-DEE HAND CLEANSER**

This is a greaseless preparation for cleansing the hands of all kinds of material. It is furnished in cans of various sizes, and dealers are furnished with counter display cards lithographed in several colors. By a Million Commercial Cowl



# De Palma Wins the Big Race at Sheephead Bay

(Continued from page 16)

lead straight through to the finish, although he did the last quarter of the last lap on a flat tire.

The entries were:

Car No. Driver and Car  
1—Dario Resta, Resta  
2—Ralph Mulford, Frontenac  
3—Joe Thomas, Mercer  
4—Ralph de Palma, Packard  
7—Louis Chevrolet, Frontenac  
38—Dave Lewis, Meteor  
48—Ray Howard, Peugeot

Milton, the winner of the first race, did not start in the 30 mile event, as his car was undergoing repairs to fit it for the 50-mile event. Reynolds did not enter either. Chevrolet had trouble with a burned valve at the end of the sixth mile and had to give up.

The race started as a three-cornered fight between Resta, Lewis and De Palma, but when Resta went out at the end of the third lap with spark plug trouble, Mulford had a safe lead on his follower, but he did not slow down on that account, but drove at a furious pace till his right rear tire went down on him in the last lap. Even with this he finished in 16:20.4. De Palma was second and Joseph Boyer third. The best previous time on this speedway was 16:31.00.

In place of the special 20-mile event for local amateurs, which was called off,

another 10-mile race was staged with six starters as follows:

Car No. Driver and Car  
2—Ralph Mulford, Frontenac  
3—Joe Thomas, Mercer  
4—Ralph de Palma, Packard  
9—Tom Milton, Duesenberg  
38—Dave Lewis, Meteor  
39—Joseph Boyer, Jr., Peugeot

Ralph Mulford won this in 5:24.20; Joseph Boyer, Jr., second; Ralph de Palma, third; Dave Lewis, fourth. All the cars maintained the same positions throughout the race that they assumed at the end of the first lap excepting Tom Milton, who retired after finishing one lap.

## De Palma Wins the 50-Mile Event

The 50-mile race, which was the big event of the day, was won by De Palma in his Packard special at the rate of 113.76 m.p.h. These nine cars and drivers started:

Car No. Driver and Car  
1—Dario Resta, Resta  
2—Ralph Mulford, Frontenac  
3—Joe Thomas, Mercer  
4—Ralph de Palma, Packard  
9—Tom Milton, Duesenberg  
21—Denny Hickey, Stickel  
27—Ira Vail, Hudson  
38—Dave Lewis, Meteor  
39—Joseph Boyer, Jr., Frontenac

Laps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
First	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Second	4	4	39	39	4	4	2	2	2	39	39	2	39	38	35	38	39	39	39	39	39	39	39	39	38
Third	39	39	4	4	39	39	39	39	39	2	2	39	38	39	39	38	38	38	38	38	38	38	38	38	38
Fourth	38	38	38	38	38	38	38	38	38	38	38	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Fifth	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	21	21	21	21	21	21	21	21	21
Sixth	27	27	8	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Seventh	9	9	21	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Eighth	21	21	27	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Ninth	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

\*Out.

## Jordan Talks in Des Moines

DES MOINES, June 14—"This is the greatest year in automobile history, the year of greatest opportunity for the salesman who has a value, an idea of service to the buyer and applies the golden rule policy to his business," was the message brought to the Motor Trades Bureau of the Des Moines Chamber of Commerce by Edward S. Jordan, president of the Jordan Motor Car Co., at the monthly dinner of the bureau, June 9. Jordan predicted a great increase in motor buying and in truck building and stated that the saturation point would not be reached until every man, woman and child had a motor car which would not wear out.

He urged the employers to foster co-operation from their men by promoting enthusiasm, friendly rivalry, better methods, profit sharing and a "good example set by the boss." Profit sharing does not mean giving away money, ac-

cording to Jordan. It means the distribution of the rewards according to the efforts of the men who make up our organizations.

## Reduce War Vehicle Orders

WASHINGTON, June 13—The contracts for motor vehicles placed by the War Department during the war and amounting in all to \$416,528,000 on Nov. 11, 1918, were reduced by cancellation or completion to \$17,970,000 on May 17. Of the total, 67 per cent was canceled, 29 per cent filled, and 4 per cent still remains on order.

## Du Pont to Build Passenger Cars

NEW YORK CITY, June 16—The Du Pont Motor Mfg. Corp. has been organized under the laws of the State of Delaware with general offices at Wilmington, Del. The corporation will manufacture Du Pont motor cars. Announcements of the

Ray Howard and his Peugeot, which won the Indianapolis race on May 31, did not start as he was having some mechanical trouble. Neither of the other two Frontenacs piloted by Louis Chevrolet and Reynolds showed up.

Mulford pulled right out in the lead with De Palma close on his heels, and for six laps the cars were so close that it was impossible to see which one was leading until the cars passed right in front of the grandstand. Mulford managed to keep a shade in the lead, however, but was finally passed by De Palma on the curve going into the back stretch of the seventh lap. The Packard pilot had put on a terrific burst of speed at this point, but this did not get him a safe margin, as Mulford hung right to De Palma's tail for the next three laps. In the eleventh, De Palma managed to increase his lead to about 50 ft. After this Mulford steadily lost ground, dropping to fourth place in the thirteenth and finally stopping altogether on the back stretch in the seventeenth. In the meantime there was a duel between Boyer and Lewis for second place. Boyer maintained second place from the seventeenth to the twenty-fourth lap, but was finally nosed out on the home stretch by Lewis.

With Mulford out of it and a fairly safe lead on the duellists for second place, De Palma took things easier, but still came home with a new record. Mulford's first two laps were run off at the rate of 1:11 per lap.

Ira Vail went out in the third lap and Resta gave up after the first.

The positions maintained by the cars were as follows:

policy of the corporation will be published shortly. This corporation is not affiliated with the E. I. Du Pont de Nemours & Co.

## J. & D. Tires on 6000 Mile Basis

CHARLOTTE, N. C., June 13—The J. & D. Tire Co. will adjust from date all J. & D. casings, including those in stock, on a 6000 mile basis.

## Service Men May Organize

NEW YORK, June 15—A meeting of service managers and mechanical superintendents of metropolitan service stations will be held at 8 o'clock Monday evening, June 23, at the Automobile Club of America, for the purpose of considering plans for bettering service through an educational organization. An invitation has been extended to any who are interested in the service division of the trade.





OFFICERS AND DIRECTORS OF THE NATIONAL AUTOMOBILE DEALERS' ASSOCIATION AT MEETING IN ST. LOUIS, JUNE 2-3

1—C. A. Vane, assistant business manager, St. Louis. 2—A. E. Maltby, director, Philadelphia. 3—George D. McCutcheon, director, Atlanta. 4—P. H. Greer, director, Los Angeles. 5—Harry G. Mook, secretary and business manager, St. Louis. 6—P. E. Chamberlain, director, Denver. 7—P. H. Brockman, president, St. Louis Automobile Manufacturers' and Dealers' Association. 8—Harry D. Austin, second vice-president, Seattle. 10—F. W. A. Vesper, president, National Automobile Dealers' Association. 11—A. E. Mitzel, director, Canton, O. 12—J. A. Graham, director, Minneapolis. 13—W. J. Brace, director, Kansas City. 14—John Boe, member entertainment committee, St. Louis Automobile Manufacturers' and Dealers' Association. 15—E. W. Steinhart, first vice-president, Indianapolis. 16—B. B. Hudnall, office manager, St. Louis

## TRUCK DEALERS LIKE RESULTS OF CARAVAN

### Tour Through Country About St. Louis Believed the Start of Truck Sales in Territory

ST. LOUIS, June 14—Efficiency of 100 per cent was attained in the St. Louis Motor Truck Expedition, which returned to St. Louis after a 375 mile tour through Missouri and Illinois. The expedition left here at 6 a. m. last Monday, returning here yesterday afternoon after a remarkable record.

All of the trucks that entered the tour returned without a single mishap. The trip was made on an average of 15 miles an hour, and the expedition always was on time. None of the trucks required even an adjustment.

The object of the trip was to demonstrate to farmers and to merchants in the smaller towns the utility of motor trucks and the advantages of good roads. The attention the trucks attracted all over the route and the interest shown in every feature of the trip made certain the success of the expedition. The value of trucks as a means of transportation made a deep impression on rural Missouri and Illinois. The publicity given to the tour in the St. Louis newspapers, which told of the way the trucks stood up under the hard strain, also served to bring forcibly to the attention of St. Louisans themselves the value of motor truck transportation in broadening their trade territory.

The St. Louisans in charge of the trip were delighted with the results obtained.

It has created an interest in motor transportation, and has done more in the education of the farmer and those in the smaller towns in the value of such transportation than could possibly have otherwise been realized.

As a sales proposition the tour was regarded as a success, in that many prospects were lined up, and it is believed that direct results will in themselves make the trip more than worth while. As an advertisement for St. Louis, it was regarded as something that was invaluable. Dealers already are talking of making the expedition an annual affair.

The roads over which the tour was made were dry. There were no hard roads. In some places there were deep ruts: None of the roads were in good condition, but the trucks went over them in good shape, further demonstrating their value.

Big crowds greeted the expedition all along the route. Farmers and their families lined the roads to see the cars pass. At the night stops almost the entire population turned out. Wherever stops were made short talks on good roads and motor truck transportation were made. The speakers were Harry G. Mook, manager of the National Automobile Dealers' Association, who suggested the expedition; Charles E. Lightfoot, of the General Motors Co., chairman of the Commercial Car division of the St. Louis Automobile Manufacturers' and Dealers' Association; L. H. Amrine, of the Scudder Motor Truck Co., chairman of the tour committee; T. C. Brandle, vice-president of the Traffic Motor Truck Co.; and Capt. Robert E. Lee, who was commander of the expedition.

Preston W. Duffy of the Chevrolet company was truckmaster, and W. L.

Patterson, of the St. Louis Motor Service Co., drove the pilot car. The evening addresses were delivered from a G.M.C. truck, electrically lighted by a Delco lighting plant that it carried. A motion picture machine was carried on a Maxwell truck, the power being fed from the city current.

The trucks showed a wide variety of lading. The object of the trip was to acquaint the farmers with the possibilities of the motor truck and also to convince St. Louis merchants of the desirability of broadening their territory.

Two Traffic trucks carried loads of baled hay.

One Republic truck carried a load of Firestone tires for delivery to the Clough-Reihm Co., a dealer at Hannibal, Mo., the noon stop on the second day. Another Republic truck, loaned for the tour by the Hercules Powder Co., carried boxes and metal kegs in which explosives are shipped. The containers were empty. C. A. Cole, sales manager of the F. C. Meyer Motor Co., which entered the truck, assured inquirers.

A G.M.C. truck carried a storage battery with a Delco light motor plant to charge it, and on each stake was an electric light, which lighted at night. In addition, the truck had giant spot lights.

But one accident marred the trip and that was to an airplane and aviator and not to a truck. The Service Motor Truck Co. of Wabash, Ind., entered two airplanes to make the trip as scout heralds. One of these planes was damaged in making a descent the first day of the trip and forced to put back. Next day the relief aviator, Oscar Brick, 30 years old, went into a tail spin when attempting a landing at Hannibal, Mo., his plane fell into a tree and he was burned to death.



## ST. LOUIS CAR SALES GOOD; DELIVERY POOR

### *Motor Truck Expedition Ex- pected to Boom Truck Sales —Taxes Revised*

ST. LOUIS, June 12—Sales of passenger cars in St. Louis were big during the first week in June. Dealers "keep right on selling," although there is little, if any improvement in deliveries, and believe this will be another record-breaking sales month. The used-car business continues good.

The motor truck expedition is expected to act as a stimulus to the truck business. The tour has gotten a great deal of good publicity here and along the route, and the whole idea has started people to talk and think about trucks. The truck men are thinking of nothing else but the tour, which starts Monday.

License taxes are being revised by a special committee of the Board of Aldermen. Gasoline and lubricating oils sold at filling stations will be taxed  $\frac{1}{2}$  cent a gallon, which, it is estimated, will add \$120,000 annually to the city's general revenue. The new license would become effective July 1, according to present plans.

Roy Frye, president of the Frye Motor Car Co., who quit business in October to prepare for war service, is back again, his company being appointed distributor of Appersons in this district. Frye formerly was distributor for Paige and Saxon cars here.

C. W. Preston, retail sales manager for the De Luxe Automobile Co., spoke on "The Power of Cooperation in Business Getting and Business Building," at the meeting Monday evening of the St. Louis Storage Battery Trade Association. President H. W. Spoenemann appointed an entertainment committee as follows: E. A. Downey, C. E. Mouselle, Victor R. Appel, and F. G. Fulkerson.

The St. Louis Vulcan Spring Co., which was organized to distribute the Jenkins Vulcan spring in this section, has opened quarters at 3042 Locust Street, with Hubert Moog, formerly manager for Florida, in charge.

The Standard Auto Service Co. has taken the other half of the building it has been occupying at 3948 Olive Street. This is the Buick service station in St. Louis.

Festus J. Wade has been appointed manager of the new Exide service station, 3408 Lindell Avenue. He succeeds A. H. Baebler. Wade has recently been discharged from the Marines, after two years' service. He is a nephew of Festus J. Wade, President of the Mercantile Trust Co.

J. E. Weber, advertising manager of the Weber Implement and Automobile Co., Hupmobile, Maxwell, Chalmers and Armleder distributor, and Miss Arabella Fischer, formerly of the office force of the same company, were married last week.

L. B. Dudley, advertising manager,

and E. A. Haskins, service manager of the Federal Motor Truck Co., Detroit, conferred here with Allen Baker, President Federal Truck Co., their distributors in St. Louis. From here they started on an extended tour of the South.

The next meeting of the Commercial Car Bureau of the St. Louis Automobile Manufacturers and Dealers' Association will be held in the new plant of the Traffic Motor Truck Corporation. A buffet luncheon will be served in the new Traffic Truck dining room.

B. F. Schweiss, B. A. Ballou, W. E. Rehbein and Harry Schoff have joined the sales force of the Traffic Truck.

### **Takes Over Rayfield Carbureter**

CHICAGO, June 14—The Beneke & Kropf Mfg. Co. has succeeded the Findeisen & Kropf Mfg. Co. and will make Rayfield carbureters formerly made by the latter concern. With the reorganization of the company, plans for the material expansion of manufacturing are formulated also. Henry Beneke, formerly vice-president of Hibbard, Spencer, Bartlett & Co., has purchased the entire interests of Frederick Findeisen and becomes vice-president and treasurer of the reorganized company. O. F. Kropf remains with the company as active president, and E. A. Bates continues as director of sales and advertising. The reorganized company is enlarging both plant and equipment. New machinery, tools and dies already have been installed, and important improvements and perfections in production processes have been made. With increased production and a better product in view, there has been a complete rerouting of the manufacturing processes, and this is said to show greatly increased efficiency already. When the expansion measures now in progress are completed capacity will be more than doubled.

### **Rainier Foreign Connections**

FLUSHING, N. Y., June 13—The export department of the Rainier Motor Corp. will be represented in Australia and New Zealand by the New York Oversea Co. of New York, in Norway by Heller, Kopsland & Co., Christiania, and in Greece by the Yourovota Home & Foreign Trade Co. of New York.

### **Dealer Takes on a Tire**

LOS ANGELES, June 16—Hawley, King & Co., distributor of the Oakland, has taken the Globe tire distribution in California, Nevada and Arizona. Reeve Gartzmann will manage the tire department, assisted by H. A. Anderson, in charge of sales.

### **S. A. E. on Outing at Wilkes-Barre**

WILKES-BARRE, June 14—Sixty members of the Pennsylvania section of the Society of Automotive Engineers were guests on the occasion of their annual outing to-day of the Sheldon Axle & Spring Co. After an inspection of the Sheldon shops, they dined at a Pocono Mountains tavern.

## WAR DEPT. APPROVES TRANSFER OF CARS

### *Will Distribute Surplus Vehicles Among Other Branches of Government*

WASHINGTON, June 12—The Director of Sales of the War Department has approved the transfer of the entire present surplus of serviceable motor cars, motor vehicles and motor trucks held by the Army in the U. S., to other Government departments. This disposes of 39,100 vehicles, including 3600 motor cycles, 5500 passenger cars and 30,000 trucks. The Post Office Department will receive 10,064 of these vehicles, the Public Health Service 1396 and the Bureau of Public Roads and Department of Agriculture 27,983.

This transfer is in accordance with congressional policies outlined in appropriation acts passed in 1918 and 1919 authorizing the transfer of this surplus stock by the Secretary of War to the Post Office Department, Department of Agriculture and Treasury Department. Because of either special design or un-serviceable condition a very limited number of passenger cars and trucks will be sold at public auction at the various camps and storage yards at which they have been collected after the sales have been duly advertised through the press.

Erroneous reports to the effect that the War Department would offer to the public a large stock of motor equipment, including new passenger cars, has been widely circulated, and is denied by the War Department. This transfer just announced effectively disposes of all of these rumors.

### **New York Dealers in Outing**

NEW YORK, June 16—The seventh annual outing of the automobile and allied trades will be held at Glenwood, Long Island, June 26, bringing more than 300 people together for recreation for the first time in two years. The affair will be in the nature of an after-the-war reunion, and will be featured by a program of athletic contests.

### **Heavy Rains Reduce Tractor Sales**

DES MOINES, June 12—Continued heavy rains interfered with tractor sales during April, according to C. L. Herring, president of the Herring Motor Co., handling Fordson tractors for Iowa, Nebraska and South Dakota. Fordson sales in this territory for May totaled 934 as compared with 1340 in April. As May is not considered a tractor selling month it would scarcely be correct to infer that tractor sales have been so very slow this year.

There are approximately as many Fordsons sold in Iowa as in Nebraska and South Dakota combined. One hundred and fifty-six were sold in South Dakota, 312 in Nebraska and approximately 470 in Iowa.



## ARMY TRUCK TRAIN TO CROSS COUNTRY

**Will Start July 7—Will Be 35  
Trucks, 5 Cars and Numer-  
ous Vehicles in Train**

WASHINGTON, June 16—The first transcontinental trip of an army motor truck train will start from Washington, July 7, under direction of the Motor Transport Corps and end at San Francisco within two months. Before the trucks start on this journey, which is expected to provide tests of the standard motorized army equipments, demonstrate long distance motor post and commercial transportation and provide for other studies and training, President Wilson will dedicate a milestone in front of the White House to represent the starting point for highways radiating out of Washington.

The train will follow the Lincoln highway as far as possible. It will comprise two complete motor transport corps companies, include five passenger cars, thirty-five trucks, all of army types, two ambulances, six motorcycles, two tank trucks, two kitchen trailers, two water tank trucks, one engineer shop truck and one searchlight truck. Technical personnel from the motor transport corps, engineer corps, medical corps, field artillery and air service will make the journey.

### News Letter from Hartford

It is next to impossible to get cars washed in Hartford despite the high prices charged. A member of the working force in one of the largest garages in this city has negotiated for a location and will devote his time exclusively to car washing and polishing. The prevailing rate is \$1.50, wire wheels extra. Car washers are paid on an average of \$20 a week.

The Colonial Automobile Co., 1279 Main Street, Hartford, has purchased a site at No. 105 Ann Street and will begin work shortly on a two-story fireproof sales and service building.

The Keeney Motor Truck Co., Hartford, in order to round out its line has added the Elgin Six which will be represented in Hartford county. Heretofore the concern has represented trucks only.

The Hartford branch of the Fisk Tire Co. became a wholesale institution on June 1 when the retail and service departments on Chapel Street were discontinued.

The A. C. Hine Co., Hartford, has taken over the state representation of the Briscoe. W. N. Barrett has been retained as the Hartford distributor.

J. F. Clark of the 101st Machine Gun company has rejoined the Harrington Hudson Co., Hartford, after an absence overseas of nearly two years.

Earl M. Taber, Hartford, who spent nearly two years in a hospital unit in France, has returned to Russell P. Taber, Inc., Reo, Republic and Peerless distributor. He becomes sales manager of the passenger car department.

William H. Vinal, Hartford, has become

sales promotion manager for Russell P. Taber, Inc., Hartford, Conn.

E. M. Dahill, Hartford, has been appointed sales manager of the Hartford branch of the Mack truck at No. 216 Wethersfield avenue. He was recently discharged from the navy.

F. B. Massey, a lieutenant commander during the war, has severed his connection with the Gould battery interests in Boston to handle the electrical department of the Universal Auto Co., Hartford.

The Universal Auto Co., Hartford, has been appointed the official service station for Goodyear cushion, solid and pneumatic truck tires. A 250-ton hydraulic press has been installed.

### Merge Two Kansas Dealers

WICHITA, June 13—Both the Packard Wichita Motor Co. and the Marshall Motor Co. of this city have been purchased by the H. G. Motor Co., St. Louis. This new company takes over the entire stock, shop equipment and accounts of the two companies and will distribute Chandler and Stutz cars in thirty-two Western Kansas counties. Officers of the new company are: general manager, J. O. Dennis; wholesale manager, Mr. Ketchum; retail manager, W. F. Groom; secretary, H. C. Alber.

### Wills and Lee to Have Canadian Plant

DETROIT, June 12—C. Harold Wills and John R. Lee, former Ford Motor Co. officials, who are about to build a large automobile plant at Port Huron, Mich., will also erect a Canadian branch at Sarnia, Ont., directly across the St. Claire River from Port Huron. While no details of the Canadian plant are given at this time, Lee states that it will be located on a 250-acre site, south from Sarnia and directly across the river from Port Huron. The two plants will be connected by ferry service. The Canadian plant will employ approximately 2000 men.

## MAXWELL-CHALMERS \$10,000,000 PLANT

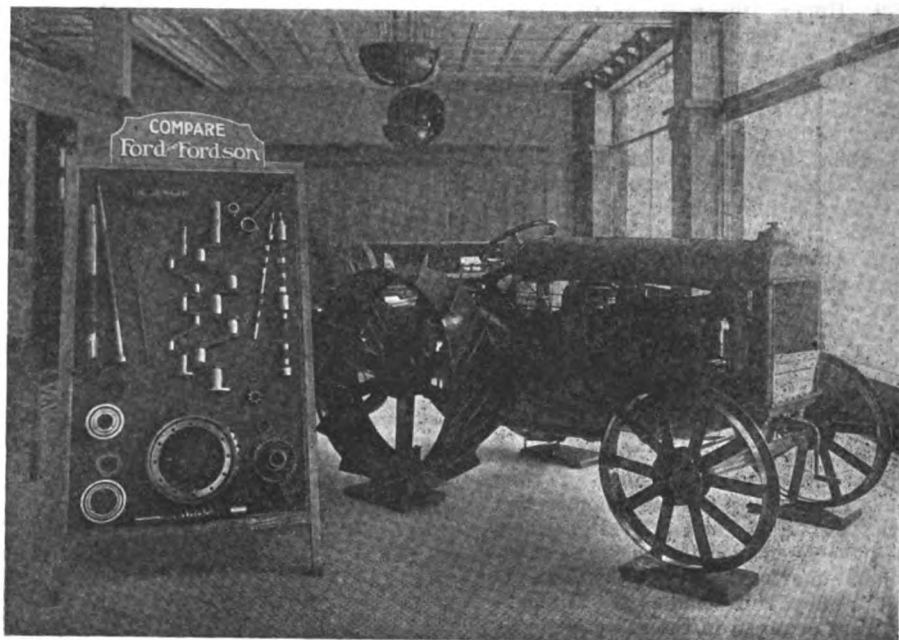
**To Employ 20,000 Men and to  
Have a Capacity of 500  
Cars a Day**

DETROIT, June 9—The Maxwell-Chalmers Corp. is preparing to build a \$10,000,000 manufacturing plant at once. The plant, when in operation, employs between 15,000 and 20,000 men and will have a capacity of approximately 500 cars a day. The capacity of the present plant is 100 cars. Work on the new plant has already started.

The establishment will consist of eleven manufacturing units and a loading dock. A new office building and a large power house will also be started. The machineworkshop will be the largest unit. It will be one story high, 200 by 1000 ft. The dimensions of the other buildings are as follows: Two storage buildings for assembly parts and finished cars, four stories and 100 x 800; axle plant, one story, 150 x 600; heat treat plant, one story, 200 x 300; engine assembly plant, one story, 200 x 300; pressed steel plant, one story, 250 x 600 ft. The dimensions of the loading dock are 100 x 800. A large body plant will be erected later. Plans for this unit call for a structure four stories high, 400 by 600 ft. The two storage buildings will have space for 8000 unfinished cars and 3000 finished products.

### Elcar Increases Prices

CHICAGO, June 14—The price of the Elcar six-cylinder has been raised from \$1,375 to \$1,475. The four-cylinder remains the same, \$1,175.



*Dayton Keith, Fordson distributor for central Illinois, furnishes all his dealers with a display of Ford and Fordson parts. The idea is to show the relative size and strength of the Ford car and Fordson tractor parts. Keith charges the dealers \$10 for the easel and furnishes the parts free*



# News Letters From Busy Centers

## The Week in New Orleans

NEW ORLEANS, June 14—Automobile dealers from all sections of Louisiana and Mississippi will meet in New Orleans early in August to form a Bi-State Automobile Dealers' Association. The movement for such an organization was launched several weeks ago and replies to letters to scores of dealers show unanimous endorsement of the plan. The meeting will be the first definite step following an agitation and discussion of the project which has been going on in these two states for several years. Efforts in the past, however, have been poorly organized and have not included all of either state, with the result that Louisiana and Mississippi are among the last states to form such an association.

A. H. Borden, vice-president of the Shuler Auto Supply Co., of New Orleans, has been taking the lead in the movement which culminated in the announcement of the convention in August. Borden, who is also secretary of the New Orleans Automobile Dealers' Association, made the first systematic canvass of the situation by sending out letters to every dealer in the two states, asking opinions on the proposed association. Information on the association may be had from A. H. Borden, Shuler Auto Supply Company, New Orleans, or from any of the following, who are the leaders in their respective sections of the two states:

T. L. Huber, Huber Motor Co., Lake Charles, La.; George R. Wray, Wray-Dickinson Auto Co., Shreveport, La.; Van H. Weathersby, General Supply Co., Magnolia, Miss.; C. E. Strahan, International Auto Co., Hattiesburg, Miss.; L. E. Barr, Barr-Gwin Company, Lexington, Miss.; A. B. Stinson, Hammond, La.; C. L. Abell, Welsh, La.; H. A. Testard, New Orleans, La.; Ginder Abbott, Abbott Automobile Co., New Orleans; J. L. Langford, Langford Motor Co., Winnsboro, La.; G. B. Hall, Columbia, Miss.; L. G. Powell, Powell Motor Company, Vicksburg, Miss.; E. W. Edwards, Harrison County Sales Co., Gulfport, Miss.; Charles Weydert, St. Francisville, La.; A. J. Lyon & Co., Meridian, Miss., or W. A. Parkhouse, New Orleans.

Three automobile companies of New Orleans are moving into new homes this month. Julian M., and J. Walton Sherrouse have re-entered the business, opening new quarters at 747 St. Charles Street. They will handle the Mitchell. They were engaged in the same business prior to taking up military service. The brothers were formerly members of the Sherrouse-Steele Motor Co. The new firm is known as the Sherrouse Motor Co., and has obtained distribution of the

Mitchell in Louisiana and Southern Mississippi.

One of the finest garages and sales establishments in the South has been opened by the Liberty Auto Co. at Rampart and Conti Streets, and made the new home of the King. The new company is composed of L. DiLeo, president; N. Cashio, vice-president; C. Pisciotto, secretary-treasurer.

The third company to go into new quarters is the Estopinal Motor Company, which has moved its St. Charles Street showroom to its own new building at 1515 Canal Street, built especially for the use of this firm which sells the Apperson, Grant and Crow-Elkhart. The Joseph Schwartz Co., Baronne and Lafayette Streets, has obtained the distribution and agency contracts for the Moon. The Schwartz company has increased its force and is planning an aggressive campaign this summer.

The Shuler Auto Supply Co. has appointed G. R. Lynch city representative specializing on seat covers. This company handles the Baker-Lockwood line of covers.

The Bearings Service Co. will hereafter maintain a special department for the assistance of tractor owners during the plowing, cultivating and harvesting season throughout Louisiana.

A. Baldwin & Co., the largest hardware house of New Orleans, has taken the agency for the Lee tire. William A. Meyer, territory man for the Lee people, will remain in New Orleans some weeks working with the new distributors.

The Capitol City Auto Co. has a new sales manager, in the person of Ed. Thurber, formerly connected with the W. P. Parkhouse Auto Co. of New Orleans. The Capitol City company will handle the Studebaker car exclusively in the future.

Henry M. Seigel has become sales manager for Velle trucks for the Allen Sales Co. He was formerly in charge of the window decorating department of Charles A. Kaufmann, Inc., one of the largest department stores of the Crescent City.

C. M. Murphy has left the New Orleans branch of the Michelin Tire Co. and will be succeeded by Charles J. Egan.

Automobile dealers of New Orleans, under the leadership of Ginder Abbott, are beginning to discuss a used-car show for this fall. The show held here in April was such a tremendous success, more than \$150,000 worth of cars having been sold from the floor, that the prospects are bright for the used-car and truck and tractor exhibit this fall, with a passenger car show next spring.

## The Week in Boston

BOSTON, June 14—The strikes in the West have worried some of the local dealers, who have been making a rush for the factories to obtain first hand information of prospects for obtaining cars.

Realizing that the shortage of vehicles is going to extend into next year, they wonder whether it would be wiser to make a clean-up on sales, with a considerable share of their profits going to Uncle Sam, or to spread their sales out over a couple of years with the possibility of a revision of income taxes downward. Representatives of the motor truck dealers have made frequent visits to the State House keeping tabs on the bill for truck fees. It begins to look as though their vigil would be rewarded by a fairer measure than the Roads and Bridges Committee reported, or something like \$10 a ton.

William A. Cahill, who has been doing flying stunts for Uncle Sam overseas, is back on motor row again in citizen's clothes, having signed up with J. A. Quimby of the Packard Auto Exchange, as salesman. He was formerly with Chalmers and Packard.

J. J. McNamara, motor manager of the *Boston Post*, has been elected president of the Owtemmig Club which comprises some of the prominent Boston dealers, who have purchased a big camp on the shores of Yatsi pond at Weld, Me., where they will spend weekends throughout the summer. The camp is one of the show places of that part of Maine.

The Stanley Motor Carriage Company's house publication, the *Steam Car*, has made its appearance at Newton, Mass. It is an eight page, illustrated paper.

Frank E. Wing, the Marmon dealer, has written a letter to Capt. Charles J. Glidden requesting him to take up again the original plan for a tour from the Atlantic to the Pacific. Mr. Wing is ready to be the first entrant.

The Boston Automobile Dealers' Association took the orphaned and crippled children, more than 2000 in number, on the annual outing to Nantasket Beach last Wednesday. Manager Chester I. Campbell had more than 200 cars for the trip.

The annual holiday run of the Bay State A. A. took place June 17, a local holiday in Boston. About 200 members went to Wampanog Inn, Taunton, where there were water and field sports, a ball game between the married and single men, a banquet in the evening and dancing afternoon and evening.

More than 300 motorcyclists have entered for the annual Gypsy Tour which will begin on Sunday and continue for three days. The trip will be to Wiers, N. H., by way of Lowell, Nashua, Manchester and Concord. At Wiers there will be a moonlight sail on Sunday, and sports on Monday, followed by a banquet.



## The Week in St. Louis

ST. LOUIS, June 14—The demand in St. Louis for passenger cars continues to increase. Orders still are in excess of deliveries. Dealers continue to cry for more cars. Most people are inclined to wait from 45 to 60 days, although the delivery situation is causing the loss of a sale here and there.

The motor truck trade's attention has been given almost entirely to the tour through Missouri and Illinois. The mind of the public in this territory has been centered on trucks through some splendid publicity in the newspapers and by word of mouth on what trucks can do. The tour has proved a fine stimulus to the trade.

Something new in the way of a show will be held next week. The Newell Motor Car Co. will put on an exhibit exclusively of used cars, renting the Coliseum for this purpose. Some 25 or 30 passenger cars taken in exchange for new Paige or Stearns machines will be on display, with Hugh Shields, manager of the used car department, in charge. There will be an intermission of a week, because of the renting of the Coliseum for another event, and then the Newell show will be resumed for a second week.

The American Annex Hotel has been selected for the annual meeting of the Motor Accessory Trade Association next Wednesday evening. W. L. Ferrier, the newly elected president, will be installed.

The St. Louis Automobile Manufacturers' and Dealers' Association took part in two campaigns this week. They have been assisting in the raising of a fund of \$100,000 to support the St. Louis Convention and Publicity Bureau and in obtaining contributions on behalf of the American Committee for Relief in the Near East. President P. H. Brockman's efforts among the members have been successful in both campaigns.

Employees of the Packard branch in St. Louis recently held an afternoon and evening affair. There was a baseball game between the sales and service departments, followed by a dinner on the third floor of the building at 2201 Locust Street. P. S. Russell, manager of the branch, spoke.

A salesroom in the University Club Building, Grand Avenue and Washington Boulevard, has been opened by the Victor-St. Louis Tire Co., distributors of Victor tires. L. H. Vining, formerly assistant sales manager of the Victor Rubber Co., is manager, and his assistants are R. W. Barton and H. W. Boone, recently returned from overseas with the 35th Division.

Eight dealers of the Alamo Farm-Lighting plant and twelve prospects were guests of the Weber Implement and Automobile Co. at a convention. Talks were made by F. J. Smith, service engineer of the factory, and George Weber, president of the Weber Co.

Frederick Buttinger has been appointed business manager, and Anthony Grimm service superintendent of the Wilson Motor Car Co., distributors of the Haynes, Elgin and Harroun cars.

Lieut. L. Marshall Ball has rejoined

the sales force of the Tate-Gillham Motor Car Co., Dodge distributor, after having been discharged from the service.

The Leach-Brouster Automobile Co. has been appointed agent for the Milburne electric car. The company has handled electric cars here for six years.

The Franklin-Ross Co., Franklin distributor, has leased the entire building at 2818 Locust Street. B. A. Brueggeman, Locomobile service representative, who shared the building, has moved to Nineteenth and Pine Streets.

L. J. Wilson has been appointed manager of the Delhi Battery and Supply Co., Prestolite distributor, succeeding R. L. Hutton, who has returned to an eastern connection of the Prestolite. Mr. Wilson is well known to the trade here.

Delco-Light salesmen held a convention and school at the American Annex Hotel under the auspices of the Del-Home Light Co., Delco distributor. E. G. Biechler, Delco sales manager, spoke at the meeting and dinner, which was presided over by W. O. Waldsmith, president and treasurer of the Del-Home Company.

Charles Hillenkoster is again service manager for the Moerschell Electric and Auto Supply Co. after eleven months service in France.

J. E. Tate has returned to the sales managership of the Sterling truck department of the Bonsack Machinery Co., resigning from the Bishop Truck & Tractor Co.

Carl A. Engel has joined the sales force of the Western Automobile Co., Pierce-Arrow distributor. He formerly was with the factory.

C. A. Cole, formerly with the St. Louis branch of the White Co., has been appointed general sales manager of the F. C. Meyer Motor Car Co., Republic distributor.

Lou J. Reinstadtler has been appointed sales supervisor for the Traffic truck in St. Louis. For six years he was a life insurance man, and was always a member of the \$100,000 League, composed of men who sold policies to that amount in a year. R. Jackson Jones, who has just been discharged from the Canadian army, has been appointed district sales promotion supervisor for the Traffic truck.

### Dealer to Make Cars and Tractors

PHILADELPHIA, June 16—L. M. Heifner, well known in motor truck, farm tractor and road machinery circles in the Philadelphia territory, plans to enter the manufacture and sale of farm tractors and passenger cars as a separate venture from his other business connections. Papers now are being prepared for filing, under the laws of Pennsylvania, which will incorporate the business. The capital stock is given as \$1,500,000 and the concern probably will be known as the L. M. Heifner Manufacturing Co., the purpose, as stated in the application, being to manufacture tractors and automobiles.

An option already has been taken on a building in Chester, Pa., valued at \$150,

000 and having 100,000 square feet of floor space. The option dates from July 1 and it is hoped to be in full operation in the building no later than Aug. 15. Heifner, who has made a study of tractors, states that his tractor, which will be especially suitable for operation on small farms, will be delivered to the purchaser for \$1,000. A feature will be its construction for use with horse-drawn implements. The intention is to have the tractor designed to be used with a two-bottom plow, having a clearance on the tractor of twenty-seven inches. Production of 3000 tractors in the first year is the goal. The tractor will be composed of standard units.

The passenger car end of the business will produce a full line, from roadsters to enclosed cars. Following are the specifications for the passenger car units:

Aluminum body; Continental motor; 128-inch wheelbase; Bosch high-tension magneto; Brown-Lipe transmission; Borg & Beck clutch; Spicer universals; Timken axles; Parish & Bingham Co. frame; Perfection springs; Stewart vacuum feed; Fedders radiator, Delco starting and lighting system. Color will be optional with purchaser.

There will, of course, be representation in Philadelphia. Heifner is general manager of the Smith-Davis Machinery Co., Market and Twenty-first Streets, which concern is distributor of Bessemer trucks in Eastern Pennsylvania, New Jersey, including Trenton and points south; Delaware and part of Maryland.

## The Week in Philadelphia

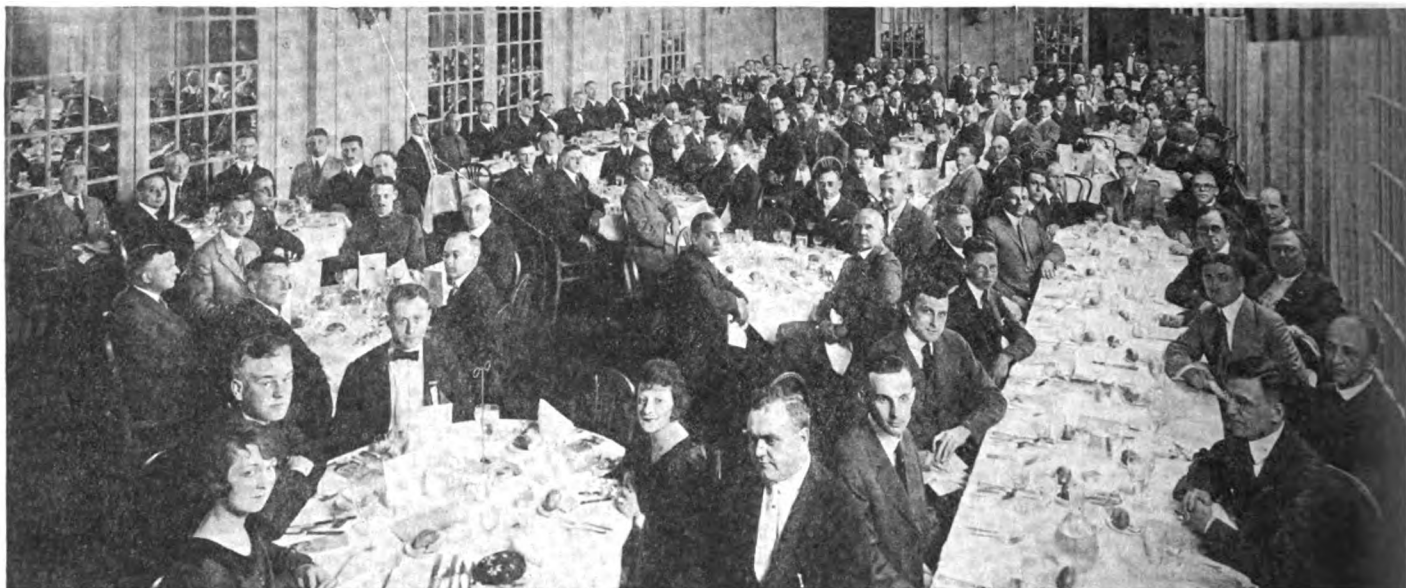
PHILADELPHIA, June 14—The Aca-son Sales Co., 1803 Market Street, distributor in this territory, which includes the greater portion of Pennsylvania, part of New Jersey and all of Delaware, of Aca-son trucks, started to move to-day to new and larger quarters at Nineteenth and Buttonwood Streets, where both sales and service departments will be under the same roof. Heretofore the service building has been at Forty-eighth and Brown Streets. Storage space has been obtained at 3600 Fairmount Avenue. Appointments of dealers will be made, it is expected, on a much wider scale.

The Lawrence Motor Co., handling Walker Electric trucks, has moved into the building at the southwest corner of Chestnut and Twenty-third Streets and has opened a service station at 507 South Twenty-third Street.

Another new occupant of the building at Chestnut and Twenty-third Streets, southwest corner, is William J. Lowe, Inc., engaged in motor truck hauling. Several new tire concerns also recently moved to this location, which is an extension of the miniature "motor row" at the Chestnut Street viaduct.

After an absence from Philadelphia of two years, during which period he has been engaged in manufacturing, George G. Weidener, formerly branch manager of the Stewart Warner Cor-





*THE NATIONAL GAS ENGINE ASSOCIATION held a Victory Dinner at the Hotel Sherman, Chicago, June 3. The long table at the right in the foreground is the new Farm Light Division of this association, which is coming into prominence with the rapid development of electric light plants*

poration, has returned to this city, having purchased the Stewart Warner branch which is now operating as the Stewart products service station at 641-643 North Broad Street. Mr. Weidener's territory will include Philadelphia and Western Pennsylvania, Southern New Jersey, Delaware, Eastern Maryland and part of Virginia. He will handle the Stewart Warner Corporation products and will also act as distributor for Black and Decker products.

The Super-Glass Co., manufacturer and distributor of "Safetee Glass," has appointed Leroy A. McCadden, a former newspaper man of this city, manager of the Philadelphia branch.

Creditors of Olin Finney & Co., Inc., automobile bankers, Broad and Chestnut Streets, have taken over control of the concern. David H. Ross, one of the creditors, to whom as trustee the stockholders have transferred their holdings and who will conduct the business, has announced that the company will continue under a reorganization and that it is expected creditors will be paid in full.

#### Du Pont to Buy Battery Concern?

Unconfirmed reports late in the week were to the effect that the du Pont interests of Wilmington, Del., were trying to obtain control of the Electric Storage Battery Company of this city. The rumors, apparently, were based on the belief that the Wilmington financiers intended to include the local battery concern in a large consolidation of companies manufacturing automobile parts, to be taken over by the General Motors Corporation, in which the du Ponts are interested. No official comment could be obtained from either side. It was noticeable that on the Philadelphia Stock Exchange a sensational advance in Electric Storage Battery took place, reaching 88½, a jump of 10 points, the highest figure reached in 14 years. It settled back later to 84. After the market

closed, it was reported that the Bosch Magneto Company, which was sold some weeks ago by the United States Allen Property Custodian and acquired by a syndicate, has purchased control of the Electric Storage Battery Co. In the absence of Horatio Lloyd, president of the company, officials here declined to discuss the report.

#### Wright Bearings Expanding

The Wright Roller Bearing Co. is making extensions to its factory, at Indiana Avenue and Twenty-ninth Street. The additional facilities will more than double its production of automobile bearings. The company has authorized an increase of its capital stock from \$1,000,000 to \$2,000,000, of which amount \$500,000 will be issued immediately. None of the stock will be sold to the public.

The Stability Motors Co., E. J. Berlet, president, has awarded prizes to truck drivers in a competitive test conducted for May. Certificates of merit for care given trucks also were awarded.

Secretary W. H. Metcalf, of the Motor Truck Association of Philadelphia, has announced the features of the big automobile outing of the association in conjunction with the Philadelphia Automobile Trade Association, the Automobile Accessories Business Association and the Camden Automobile Trade Association, which will be held on the afternoon of Saturday, June 21, at Kugler's Mohican Club, on the Delaware River. The main features include a ball game between the Motor Truck Association and the Accessories Association, the winner to play the Camden Association; athletic and other sports; a big, old-fashioned beefsteak dinner, served on the Mohican Club lawn, and an entertainment by the Firestone Overseas Entertainers. R. Arthur Bittong, "the Sentaor from Holland," is chairman of the entertainment committee.

The Philadelphia Garage Association's

second annual Sociability Run will be held on June 25 to the Eagle's Mountain Home on Mount Penn, near Reading, 1000 feet above the city. A real old-fashioned Berks County dinner will be served. There will be a musical and dancing program and other forms of entertainment. The complete committee consists of President George G. Blind, Charles E. Meiswinkel, chairman; Warren P. Miller, Warren Gilbert, Walter B. Ott, Herbert Lobb and Edward J. Tallant.

#### Girls Play Ball

The Hess-Bright Manufacturing Co.'s female baseball team and a girls' nine from the David B. Lupton Co. are playing a seven-inning game on the Hess-Bright field as this dispatch is mailed.

Mayor Smith has signed an ordinance fixing a penalty of \$10 fine for any person "hooking on behind" a moving vehicle, motor driven or horse drawn.

The following garages are planned: G. Tajirian, 4845 Chestnut Street, brick, one story, to cost \$1,300; C. Beaver, Russell and H Streets, one-story brick, to cost \$2,300; A. W. France, Oakland and Harrison Streets, concrete, to cost \$1,000.

#### United Motors in Indianapolis

DETROIT, June 16—The United Motors Service, Inc., recently has established a branch in Indianapolis to take care of the trade in that busy territory.

#### Clemens Branch Out

DES MOINES, June 16—Ashton and Ross J. Clemens, of the Clemens Auto Co., Des Moines, Overland distributor, and M. M. Hamilton, of Ottumwa, Iowa, have incorporated the Ottumwa-Overland Co. to handle the Overland agency at that city. The concern is capitalized at \$60,000.



# Economy Run in West Brings Laurels to Franklin, Stephens and Briscoe

**Nearly 375 Miles Covered in Two Days Over Seven Ranges of Mountains—No Mishaps and Only One Car Reporting Trouble—Car Shortage Reduces Number of Entries**

**I**N the third annual Los Angeles-Camp Curry, Yosemite Valley gasoline economy run, May 30 and 31, eleven cars competed. The entries were divided into three classes based upon the factory selling price. A Franklin touring car won in Class 3, a Stephens touring car in Class 2 and a Briscoe touring car in Class 1. The other cars competing were a Dort, Overland, Lexington, Mitchell, Peerless, Templar, Stearns and Marmon limousine. The results were determined by the ton mileage and the Franklin won a cup for its victory in its class on this basis, another for the best showing irrespective of class, and a third a special trophy for the use of the least amount of oil, gasoline and water.

The distance of the run was 374.5 miles and two days were required. The Franklin consumed 13 gallons of gasoline, an average of 28.8 miles per gallon and 49.98 ton miles per gallon. The Briscoe used 13 gallons of gasoline for an average of 40.5 ton miles per gallon and the Stephens 17.5 gallons for 46.2 ton miles. Coasting was permissible and drivers took advantage of every opportunity to save gasoline, but there also was about 60 miles of second-gear work during the run. There were no accidents and the only mishap was to the Marmon,

which had magneto trouble and failed to reach the first control at Fresno within the time limit.

To appreciate fully how hard a grind these cars underwent it must be understood that seven mountain ridges were crossed. On the Mojave desert there was a strong headwind blowing that offered unusual resistance. The second day the cars climbed from an elevation of 278 ft. to approximately 7000 ft. and in the last three miles into the valley dropped 1500 ft. so rapidly that the engines had to be used as brakes. Two nights before there had been a cloud-burst in the Chowchilla mountains and the road was very soft and treacherous.

The small number of entries was due to the car shortage as several dealers were compelled to cancel because of lack of a car to drive.

## Airplane Dealer in Des Moines

**DES MOINES, June 16**—Des Moines is to have an airplane agency within the next month. Harvey Ray, recently discharged from the aviation section of the army, and Roy Beery will open the agency here. A "Canuck" Curtis plane will arrive for these dealers during the coming week and options on six more planes have been taken.

## PENCE TO TAKE 400 DEALERS TO FACTORY

**Will Have Boat Excursion from Minnesota to Factory with Stop at Niagara Falls**

**MINNEAPOLIS, June 16**—Four hundred Buick and G.M.C. dealers for the Pence Automobile Co. are to have the time of their lives this month. Harry E. Pence, the Hun having been hunted down, decided to resume his annual excursions to the factory on June 28. To make the occasion one to be remembered he has chartered for the round trip to Buffalo the steamship "North American." This is one of the Leviathans of the "unsalted seas." Fargo, Billings, Minnesota and St. Paul dealers will be on hand.

Colonel W. R. Stephens, Pence sales manager and head of the Minnesota Motor Corps, has outlined the trip as follows: June 28, 9.30 a. m., leave by special train for Duluth; 1.30 p. m., board the steamer. From that point a smooth sail will be taken to Bay City, Mich., where a train will be taken to the plant at Flint. Two days will be spent there. Then a start will be made for Buffalo by the boat. The following Thursday will be given to sightseeing. Cleveland, Detroit, Pontiac and Mackinac will be other points visited. Chicago will be reached the following Monday and Minneapolis by train from Chicago at 12.15 p. m. Tuesday.

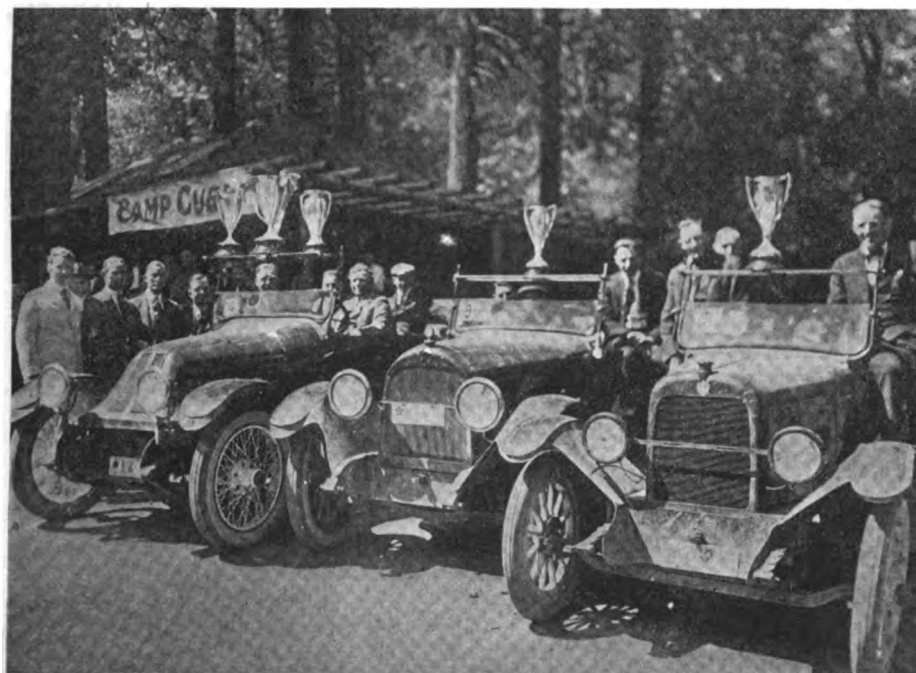
This sort of tour is one of the numerous Pence ideas to put zip into Buick and G.M.C. truck sales. By visiting the factories the dealers in the Northwest get a selling power that cannot be overestimated. The fare is so low that no dealer could come within sight of the figure going it alone, and he wouldn't have half the fun.

## Roads for Pennsylvania

**HARRISBURG, PA., June 13**—Contracts calling for the purchase of more than \$200,000 worth of road equipment machinery have been let by the State Highway Department, the machinery to be delivered at an early date. The awards include contracts for rollers, traction engines, gasoline pumps, crushers, sprinklers, asphalt heating kettles, air drills, compressors and chip distributors.

## Disposal of War Vehicles

**WASHINGTON, June 16**—The transfer of the 39,100 surplus motor vehicles to other government departments as approved last week by the Director of Sales of the War Department included 3600 motorcycles, 5500 passenger cars and about 30,000 trucks. The Post Office Department will receive 10,064 of these vehicles, the Public Health Service, 1396 and the Bureau of Public Roads, Department of Agriculture 27,983.



*The winners of the Los Angeles-Yosemite Valley economy run were a Franklin, Stephens and Briscoe, each winning in its own class*



## CHANGES in the Trade

Lieut. Oglesby, formerly of the Ordnance department, U. S. A., has joined the Elsemann Magneto sales organization.

H. B. Hall has been elected vice president of the Bethlehem Motors Corp., Allentown, Pa. He will make his office in New York to look after the export activities of the company. He was formerly assistant general sales manager of the Bethlehem Motors Corp. and until recently president of the Chicago Bethlehem Sales Co., Chicago.

Asher Golden has been appointed by the Compagnie d'Applications Mécaniques, Paris, its exclusive agent in the United States for the sales of bearings and retainers.

J. L. Justico, who for the past three years has been zone supervisor for the Maxwell Motor Co., Detroit, resigned to become general sales manager of the National Wire Wheel Works, Inc. He will have his office in the Book Building, Detroit.

O. E. Szokoly, chief engineer and production manager of the tractor department of the Velle Motors Corp., Moline, Ill., has resigned and will take over the engineering and production end of the Grid-Iron-Grip Co., Rock Island, Ill., maker of track-laying shoes for tractors and trucks. In addition a general engineering laboratory to be operated as the O. E. Szokoly Co. will be opened to furnish drawings and designs in all automotive lines.

Otto Bruenauer, formerly director of sales and engineering of the U. S. Ball Bearing Mfg. Co., Chicago, has resigned. His future plans have not been announced.

Harry N. Jones has been appointed manager of the Packard Motor Co. of Chicago branch, which will be opened in Davenport, Ia., in the near future to succeed the Buck Motor Co., which has distributed Packards in this territory for several years past. Buck expects to go into the automobile accessory business as soon as he can find a suitable location.

Lynn McNaughton has been appointed general sales manager of the Cadillac Motor Car Co., succeeding Earle C. Howard, who

recently resigned. Mr. McNaughton has been with the Cadillac sales organization for 14 years and assistant under Mr. Howard since 1913.

B. V. Unwin, until recently connected with the Commonwealth Brass Co., Detroit, has been appointed manager of the sales promotion department of the J. C. Willson Co., Detroit.



JOSEPH C. BELL

President-elect of the New Jersey Automobile Trade Association. Despite the fact that he is only 36 he has been in the industry for 20 years

### McMinn in Business for Himself

NEW YORK, May 19—Stanley P. McMinn, who for the past 10 years has been affiliated with the editorial staff of Motor World, and has been managing editor for the last 3 years, has severed his connection with that paper, to enter business for himself. Together with Harold F. Blanchard, also formerly connected with the editorial department of the same paper, he has formed the McMinn Tire Co., Inc., and obtained the Gates half-sole tire franchise for Bridgeport, Conn. He will also operate in New Britain as the Kingsland Tire Co.

## General Motors Now \$1,020,000,000 Concern

### Stockholders Vote Increase of Capital from \$370,000,000

NEW YORK, June 16—Increase of the capital stock of the General Motors Corporation from \$370,000,000 to \$1,020,000,000 was voted at a stockholders meeting, at Wilmington, Del., June 12. The stock division calls for \$20,000,000 preferred, \$500,000,000 debenture and \$500,000,000 common shares.

The increase, according to John J. Rashob, director of the corporation, is intended to enable the company to take advantage of any opportunity that may develop in the motor field, extensions of plants being financed out of earnings rather than stock sale proceeds.

Reports that the enlarged capitalization would provide funds for absorption of the Ford Motor Co. were denied.

### Inter-City Run a Tie

NEW YORK, June 16—Because the reports of inexperienced observers assigned to the cars were so vague as to be practically valueless, the inter-city reliability contest between the New York Athletic Club and the Chicago Athletic Association, run June 12 and 13 over a 350-mile course in New England, was declared a tie.

After spending several hours attempting to check up the observers' records, the committee in charge decided to announce a draw, the team leaders consenting, and plans were made for a run next year in Chicago upon the invitation of Samuel E. Hibben, the Chicago captain, accepted by W. Irvine Fickling of the New York tourists. At that time ownership of the trophy offered by Eddie Rick-enbacker will be decided.



THE FORD MANAGERS AND DEALERS FROM THE CAROLINAS and adjacent territory held a convention (No. 1) and Mr. Holt (No. 2). The convention took up the future policies



## STOLE 22,000 CARS IN WEST LAST YEAR

**Thieves Make Good Get-away in  
Big Per Cent of Cases—  
N.A.D.A. Plans Action**

ST. LOUIS, June 14—In 18 Western and Midwestern cities 22,273 motor cars were stolen in 1918, according to figures furnished the National Automobile Dealers' Association by the Automobile Protective and Information Bureau of Chicago, which is a business league of several motor car underwriting stock insurance companies. Detroit heads the list with 2637 cars stolen, Chicago second with 2611 and St. Louis third with 2241.

Kansas City led in the list of total percentages of stolen cars unrecovered, 46 per cent. St. Louis was second, 40 per cent of its stolen cars being lost absolutely. The tabulation follows:

	Stolen	Recovered	% Loss
Chicago .....	2611	1954	25
St. Louis .....	2241	1354	40
Kansas City ....	1144	606	46
Denver .....	901	627	33
Omaha .....	1039	669	35
Columbus, Ohio. 451	352	20	20
Cincinnati .....	348	291	16
San Francisco..	1122	1082	4½
Los Angeles ....	1629	1499	10
Oakland .....	895	860	4
Seattle .....	1451	1376	6
Portland .....	1088	990	9
Salt Lake City..	797	790	1
Boston .....	866	607	30
Detroit .....	2639	1954	26
Indianapolis ....	404	No rec. of rec'v's	
Oklahoma City .	571	484	15
Cleveland .....	2076	1816	13

The N. A. D. A. directors appointed a committee to confer with manufacturers to arrange a plan for better identification of motor cars by a more complete numbering of the component parts of motor cars. Usually the motor number is all the owner knows by which

to identify his car, and thieves invariably chisel this off at once. The dealers believe that if several of the component parts of a car were numbered and records thereof kept by the manufacturers, by the dealers or by the owners, the work of identification would be greatly simplified.

Plans for the development of a nationwide bureau of registration to facilitate recovery of stolen cars are being considered by the N. A. D. A. The association also recommends that dealers pay greater attention to the prosecution of motor car thieves whenever arrests are made.

Five years is the "list" price in St. Louis for motor car thefts. Until several months ago, it was almost impossible to obtain a conviction. But dealers have become interested in such prosecutions. One year was the term in the first conviction. This was followed by letters to the prosecuting attorney, commending his office for the diligence shown. The next sentence was two years. Then came more letters of commendation, and the next conviction was for five years, which is the rule.

Harry G. Mook, business manager of the N. A. D. A., said that dealers throughout the country are awakening to the seriousness of the situation.

### Ship by Truck in Columbus

COLUMBUS, OHIO, June 12—The "ship by truck" movement in Columbus is now under full sway. Fostered by the ship-by-truck bureau, a big demonstration was given last week, when 125 trucks paraded the streets bearing banners advertising the purposes of the movement. Following the parade the truck drivers and the backers of the movement, the Firestone Tire & Rubber Co., were entertained at luncheon, where the many advantages of shipping by truck to short distances surrounding centers of population were emphasized.

## ENGLAND PAYS HIGH PRICE FOR OLD CARS

**1915 Models Bring Four Times  
Original Price—No Cars for  
Sale During the War**

LONDON, ENGLAND, May 27—Today's London Times carries an advertisement offering a number of used passenger cars at prices which are staggering, as compared with their original retail ratings. The explanation of the enormous increase is found in the fact that England is suffering from a car famine of unparalleled severity. No passenger cars have been built, except for war service, for over four years and one of the first military orders in August, 1914, commandeered all privately owned cars for army service. The prices given in the table below have been reduced to dollars from pounds sterling at the current rate of exchange in New York:

*Used Car Price in 1919	Make and Type	Year	Original Price When New
\$23,150.00	Rolls-Royce, 5-pass.	1915	\$6,250.50
21,992.50	Rolls-Royce, All-wea.	1915	6,945.00
20,140.50	Rolls-Royce, 5-pass.	1915	6,250.50
19,677.50	Rolls-Royce, 4-pass.	1914	6,250.50
18,520.00	Rolls-Royce, 5-pass.	1914	6,250.50
10,417.50	Rolls-Royce, Torpedo	1913	6,109.00
7,176.50	Fiat, Sport	1917	4,630.00
6,829.25	Nazzaro, All-weather	1915	3,985.50
5,845.37	Minerva, Landaulet	1913	3,067.37
5,787.50	De Dion, All-weather	1915	3,241.00
4,051.50	Darracq, Landaulet	1916	2,754.85
4,051.50	Germain-Dal'r, Sport	1914	3,067.37
3,472.50	Hupmobile, Coupé	1915	2,291.95
2,650.67	Morris-Cowley, Coupé	1916	2,025.63
2,187.667	Calthorpe, Coupé	1917	.....

\*To arrive at the cost of any of these used cars delivered in the United States, add 45 per cent import duty; also freight and insurance. Possible loss through fluctuation of exchange rate would be another factor for consideration.



Recently in Charlotte, N. C. They turned out in numbers to have conference with Sales Manager William A. Ryan of the Ford Motor Co. and went into prospects for sales this year and next



# COMING EVENTS

## Races, Contests and Tours

Atlantic City, N. J.	July 4	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	Speedway.
Hohokus, N. J.	July 4	Dirt track event.
Cincinnati, O.	July 5	Speedway.
Uniontown, Pa.	July 19	Mid-summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	Speedway.
*Middletown, N. Y.	Aug. 15	Dirt track event.
Elgin, Ill.	Aug. 22-23	Road race.
Sheepshead Bay, N. Y.	Aug. 23	Speedway.
Uniontown, Pa.	Sept. 1	Speedway.
Sheepshead Bay, N. Y.	Sept. 20	Speedway.
*Allentown, Pa.	Sept. 27	Dirt track event.
Cincinnati, O.	Oct. 1	Speedway.
*Trenton, N. J.	Oct. 4	Dirt track event.
*Danbury, Conn.	Oct. 11	Dirt track event.

\*Tentative dates.

## Meetings

Philadelphia, Pa.	June 21	Annual Outing, Kugler's Mohican Club, Motor Truck Assn. of Phila., with the Phila. Auto Trade Assn., Automobile Accessories Business Assn. and the Camden Auto Trade Assn.
Ottawa Beach, Mich.	June 23-28	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-24	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.

## Foreign Shows

Paris, France	Oct. 15	Grand Palais—International Automobile Manufacturer's Congress.
London, Eng.	Nov. 7-16	Olympia Exhibition, Society of Motor Manufacturers & Trades.

## Tractor Demonstrations

Wichita, Kan.	July 14-19	Automotive Committee of National Implement Assn.
Columbus, O.	July 28-29	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Piqua, O.	Aug. 1-2	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Fostoria, O.	Aug. 6-7	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Akron, O.	Aug. 12-13	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Aberdeen, S. D.	Aug. 18-22	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	Inter-Provincial Plowing Match and Tractor Demonstration.

## Shows

Greenville, S.C.	July 14-19	Agricultural Implement & Tractor Exposition. F. M. Burnett, Manager.
Greenville, S. C.	July 14-19	Agricultural Implements and Tractors. F. M. Burnett, General Manager.
Minnesota	Aug. 30-Sept. 6	State Fair.
Indianapolis, Ind.	Sept. 1-6	State Fair. Cars and Accessories, Indianapolis Automobile Trade Assn., John B. Orman, Manager.
Cincinnati, O.	Sept. 13-20	Ninth Annual, Music Hall, Cincinnati Automobile Dealers' Assn., H. K. Shockley, Manager.
Springfield, Mass.	Sept. 15-20	Eastern States Exposition. J. O. Simpson, General Manager.

## 1920

New York, N. Y.	Jan. 3-10	Grand Central Palace, National Automobile Chamber of Commerce, S. A. Miles, Manager.
Chicago, Ill.	Jan. 24-31	Coliseum, Cars, Drexel Pavilion; Trucks, National Automobile Chamber of Commerce, S. A. Miles, Manager.

### Oregon Dealers Join National Body

PORTLAND, ORE., June 16—Robert E. Magner of Seattle, recently appointed field secretary in the Pacific Northwest for the National Automobile Dealers' Association, has met with success in his efforts to interest Oregon dealers in this national organization. In a few days work here he has obtained 30 members, as follows: Northwest Auto Co., W. H. Wallingford Co., Northwest-Oakland Co., Willamette-Oakland Co., Oregon Motor

Car Co., Willys-Overland-Pacific, Roberts Motor Car Co., Braly Auto Co., Covey Motor Car Co., C. L. Boss Automobile Co., Twin States Motor Car Co., Oldsmobile Co. of Oregon, William L. Hughson Co., Cook & Gill, Portland Motor Car Co., Atterbury Truck Sales Co., J. H. Graham, Palace Garage Co., Graham Motor Car Co., Fike-Horn Motor Car Co., Mitchell, Lewis & Staver Co., Charles C. Fagan Co., A. C. Stevens, Gary Coast Agency, E. D. Van Dersal, The White Co., Lewis E. Obye Motor Car Co., D. C.

## New York Stock Exchange Closing Quotations

June 14, 1919

	Bid	Asked
Fisher Body, com.	81½	82½
Fisher Body, pfd.	100	101
Goodrich, B. F., Co., com.	76½	76¾
Goodrich, B. F., Co., pfd.	105½	106½
Kelly-Springfield Tire, com.	119¾	120
Kelly-Springfield Tire, pfd.	100	101
Kelsey Wheel, com.	52	56
Kelsey Wheel, pfd.	99¾	100
Lee Rubber & Tire.	32½	33
Stewart Warner Speedometer.	94	99
Stromberg Carburetor.	56	57
U. S. Rubber, com.	115½	115¾
U. S. Rubber, pfd.	114	115
Chandler Motor Car.	200	202
General Motors, com.	209	210
General Motors, pfd.	93	93½
General Motors, deb.	90	90½
Maxwell Motor, com.	46	47
Maxwell Motor, 1st pfd.	81	81½
Maxwell Motor, 2d pfd.	37½	38
Pierce Arrow, com.	59	59¾
Pierce Arrow, pfd.	107	107½
Saxon Motor Car.	10½	10¾
Studebaker, com.	99¾	99¾
Studebaker, pfd.	99¾	100
Stutz Motor Car.	70	70½
White Motor	56½	57
Willys Overland, com.	39¾	39¾
Willys Overland, pfd.	97	98

Warren Motor Car Co., C. H. McCabe for Portland branch of the Chevrolet Motor Co. of California, and the Fields Motor Car Co.

F. W. A. Vesper of St. Louis, president of the national organization, is to visit Portland this fall.

### Held Real Garage Opening

DES MOINES, IOWA, June 16—When L. C. Lyders, a Dodge, Oakland and Nash dealer in Ellsworth, a town of 530 population, opened a modern garage late in May he did not merely hang out a shingle. He announced a formal opening and invited the whole county to see what an up-to-date establishment looked like. He conducted demonstrations in the street of Case and Happy Farmer tractors, which he handles in addition to the passenger cars, and for fear some of his prospects might have missed the afternoon "show," held another in the evening. He also brought several factory experts to Ellsworth, and treated the public to a series of practical lectures intended particularly for car owners.

### England Licenses 411,791 Cars

LONDON, ENGLAND, May 22—Car licenses in England, as reported for the sixth and seventh issues of the Board of Trade Journal, total 411,791, which seems to be a fair estimate of all the cars in use in the country. Complete figures follow:

	6th Issue	7th Issue
Form 1—Private cars.	93,947	.....
Form 1A—Private cycles.	56,269	.....
New series:		
1 and 1A, private cars and cycles	76,605	.....
Form 2—Doctors' cars.	12,073	.....
Form 3—Hackney vehicles.	25,827	.....
Form 4—Commercial vehicles.	47,388	37,837
Form 5—Industrial processes.	61,805	.....
Total.	373,954	37,837



# Farm Tractors

# MOTOR WORLD GUIDE

# Farm Tractors

Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Allis-Chalmers	6-12	2,300	.....	W	2	LeRoi	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Allis-Chalmers	10-18	4,800	.....	W	2	Ow	4	13x6	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x6	G or K	4-5
Allis-Chalmers	14-20	5,300	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Allwork	18-24	5,300	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
American	14-28	4,975	1595	W	4	Beaver	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Appleton	12-24	4,975	.....	W	4	Buda	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Atlas	16-26	5,400	1750	W	3	Waukesha	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Autosan-Taylor	15-30	7,500	.....	W	4	Waukesha	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Autosan-Taylor	22-45	12,500	.....	W	4	Waukesha	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Autosan-Taylor	30-60	23,000	.....	W	4	Waukesha	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Austin	5-10	750	.....	W & C	2	LeRoi	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Austin	12-20	3,500	.....	W	2	Buffalo	4	13x6	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x6	G or K	4-5
Austin	13-30	4,500	.....	W	2	Buffalo	4	13x6	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x6	G or K	4-5
Austin	15-30	4,500	.....	W	2	Buffalo	4	13x6	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x6	G or K	4-5
Avery	5-10	1,150	550	W	2	Assoc. Mfrs	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Avery	8-14	3,050	.....	W	3	Ow	4	13x4	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x4	G or K	3-4
Avery	10-18	4,900	.....	W	3	Ow	4	13x4	G or K	2	Farquhar	18-35	16,000	.....	W	3	Ow	4	13x4	G or K	3-4
Avery	12-20	7,500	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Avery	14-28	9,800	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Avery	18-30	9,200	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Avery	22-45	12,500	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Avery	40-80	22,000	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Bates Steel Oil	15-25	4,000	.....	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Bates Steel Oil	18-30	5,000	.....	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Bates Steel Oil	22-45	12,500	.....	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Beaman	11-14	3,100	.....	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Beltrui	12-20	4,500	.....	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Boring	15-30	9,000	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Boss	20-40	9,000	.....	W	4	Ow	4	13x6	G or K	3	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Brilliant	12-22	4,900	.....	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Bull	12-21	5,000	1200	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Capital	15-36	4,000	1500	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Capital	20-40	5,000	1500	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	10-15	3,500	1200	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Case	10-20	5,000	1325	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Case	15-27	5,700	1600	W	3	Ow	4	13x4	G or K	1	Farquhar	15-25	6,300	.....	W	3	Buda	4	13x6	G or K	3-4
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35	19,000	.....	W	4	Ow	4	13x6	G or K	6-7
Case	20-40	14,000	3000	W	4	Ow	4	13x6	G or K	4	Farquhar	20-35									



# Trucks

[illegible]



They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.



## Passenger Cars

## MOTOR WORLD GUIDE

## Passenger Cars

2-3-5-7- Pass. Pass. Pass. Pass. Sedan									
Model	Engine	Ignition	Lighting	WB	Tires	Rims	Pass.	Pass.	Sedan
FRANKLIN 9B	6-31x4 A-Kent	Dyneto		115	33x4 1/2	SS	\$2400	\$2450	\$3350
GRANT G	6-3 x4 Remy	Wagner		114	32x3 1/2		1120	1120	1645
HANSON HARROUN A-1	6-31x4 A-Lite	A-Lite		119	32x4	SS	1685	1685	1685
HAYNES 45	4-31x4 A-Kent	Remy		106	30x3 1/2	SS	1095	995	1095
HOLLIER 24	6-31x4 Remy	L-N		127	34x4 1/2	SS	1745	2455	3355
HOLMES 46	12-21x5 Delco	L-N		137	34x4 1/2	SS	12250	2250	4000
HUDSON Super-4	6-31x4 Elsmann	Dyneto		126	34x4 1/2	SS	2000	3000	3000
HUPMOBILE R	4-31x4 A-Kent	Watts		112	32x4	SS	1335	1335	2135
JONES 28	6-31x4 Remy	Watts		126	34x4	SS	2100	2250	2100
JORDAN J-40	6-31x4 Delco	Bijur		137	32x4 1/2	SS	2475	2475	3500
KING G	8-3 x5 A-Kent	Bijur		120	34x4	SS	2550	2550	3100
KUSSEL KAR Custom Built	6-31x4 Remy	Remy		124	32x4 1/2	SS	1865	1865	2590
KLINE KAR 6-42-H	6-31x4 Conn	Watts		121	33x4	SS	1785	1785	2850
LEXINGTON R-19	6-31x4 Conn	Watts		122	34x4	SS	1570	1720	2640
LIBERTY 10-B	6-31x4 A-Kent	Wagner		115	32x4	SS	1670	4600	6600
LOCOMOBILE 48	6-41x4 Berling	Watts		142	35x5	QD	895	895	1565
MADISON 1815	6-31x4 Remy	Remy		115	33x4	SS	1550	1550	1890
MAIBOIM 1115	6-31x4 A-Kent	Wagner		116	32x3 1/2	SS	1290	1290	1890
MARMON 34	6-31x4 Bosch	Bijur		136	32x4 1/2	QD	19350	3900	5750
MAXWELL 25	4-31x4 A-Kent	Stamps		109	30x3 1/2	C	895	895	1565
MCFARLAN 25	6-41x4 Bosch	Watts		136	35x5	QD	4300	4500	5600
MERCER Series 4	4-31x4 Berling	Watts		132	32x4 1/2	SS	4350	4500	4500
MITCHELL E-40	6-31x4 Remy	Remy		120	33x4	SS	11475	1475	2175
MOLINE-KNIGHT L	4-31x4 Conn	A-Lite		112	35x4 1/2	SS	2000	3000	3500
MONITOR 6	6-31x4 Dyneto	A-Lite		117	33x4	SS	1475	1475	1475
MONROE 6-46-19	31x4 Delco	Delco		115	32x3 1/2	SS	1195	1195	1475
MOORE 6-46-19	31x4 Delco	Delco		115	32x3 1/2	SS	1195	1195	1475
MURRAY 6-46-19	31x4 Delco	Delco		115	32x3 1/2	SS	1195	1195	1475
NASH 882	6-31x4 Delco	Delco		128	34x4 1/2	SS	2300	2300	2300
NASH 882	6-31x4 Delco	Delco		128	34x4 1/2	SS	2300	2300	2300
NATIONAL 7-Tone	6-31x4 Delco	Watts		128	34x4 1/2	QDR	12450	2450	3120
NELSON 12-21x5	6-31x4 Delco	Bijur		128	34x4 1/2	QDR	13050	3050	3720
NORWALK 4-31x4	6-31x4 Bosch	U.S.L.		104	32x4	SS	1200	1400	1800
	4-31x4 Delco	Delco		117	32x3 1/2	SS	1105	1105	1105

2-3-5-7- Pass. Pass. Pass. Pass. Sedan									
Model	Engine	Ignition	Lighting	WB	Tires	Rims	Pass.	Pass.	Sedan
ALLEN Series 41	4-31x5 Conn	A-Lite		112	32x3 1/2	SS	1195	1195	1895
AMERICAN B	6-31x5 A-Kent	West		122	32x4	SS	1835	1765	1865
AMERICAN BEAUTY	6-31x5 G&D	Q&D		121	33x4 1/2	SS	2000	2000	2000
ANDERSON 400-A-E	6-31x4 Conn	Watts		120	32x4	SS	1675	1760	2560
ANNIVERSARY	6-31x4 Remy	Bijur		130	33x4 1/2	SS	14000	4000	4000
APPERTON 6-30	8-31x5 Remy	Bijur		130	33x4 1/2	SS	2035	2375	2635
AUBURN 6-30-H-K	6-31x4 Remy	Remy		120	33x4	SS	11595	1595	1595
BELL	4-31x4 A-Kent	Dyneto		114	31x4	QD	1145	1145	1145
BIDDLE H	4-31x5 Elsmann G & D			121	32x4	QD	3000	3100	4400
BRISCOE B-24	4-31x5 Conn	A-Lite		104	30x3 1/2	C	895	885	885
BUICK H-6-44-47	6-31x4 Delco	Delco		118	32x4	SS	1495	1495	2195
H-6-49-50	6-31x4 Delco	Delco		124	31x4 1/2	SS	1785	1785	2385
CADILLAC 57	8-31x5 Delco	Delco		125	35x5	SS	3278	3220	4090
CASE U	6-31x5 Watts	Watts		125	35x4 1/2	SS	12100	2100	2100
CHALMERS 6-30	6-31x4 Remy	A-Lite		117	32x4 1/2	SS	1565	1565	2250
CHANDLER	6-31x5 Bosch	Watts		123	33x4	SS	11705	1705	1705
CHEVROLET 490	4-31x4 Remy	A-Lite		102	30x3 1/2	C	715	735	2095
F B	4-31x4 Remy	A-Lite		110	32x4	SS	1110	1135	1685
D	8-31x4 Remy	A-Lite		120	34x4	SS	1685	1685	1685
COLE 870	8-31x4 Delco	Delco		127	33x5	SS	2595	2595	3995
COLUMBIA D-30	6-31x4 A-Kent	W. Lord		115	32x4	SS	11745	1600	2445
COMET	31x5 Delco	Dyneto		125	33x4	SS	1685	1685	1685
CROWN-ELKHART CE-36	4-31x5 Conn	Dyneto		115	32x3 1/2	SS	1095	1095	1445
CUVINGHAM V-3	6-31x5 Delco	Watts		122	35x5	SS	14250	4750	4850
DANIELS B	8-31x5 Watts	Watts		127	34x4 1/2	QDR	3750	3750	5500
DAVIS 51-54	6-31x4 Delco	Delco		120	32x4	SS	11750	1695	2395
DISPATCH G	4-31x5 Bosch	USL		120	34x4	SS	11250	11290	1290
DIXIE FLYER H-5-50	4-31x5 Conn	Dyneto		112	32x4	SS	1345	1345	1345
DODGE BROTHERS	4-31x4 Own	N.E.		114	32x3 1/2	SS	1085	1085	1750
DORRIS 6-40	6-31x5 Bosch	Watts		122	35x5	SS	2750	3750	4615
DORT 11	4-31x5 Conn	Watts		105	30x3 1/2	QD	925	925	1355
ELCAR D.F.	4-31x5 A-Kent	Dyneto		115	32x3 1/2	SS	1175	1175	1725
ELOIN H	6-31x4 A-Kent	Dyneto		118	33x4	SS	1375	1375	1895
ESSEX A	4-31x4 Wagon	Wagon		121	34x4	SS	1395	1395	1950
FORD T	4-31x5 Delco	L		108	32x4	SS	1395	1395	2350
	4-31x5 Own			100	30x3 1/2	C	500	525	775

2-3-5-7- Pass. Pass. Pass. Pass. Sedan									
Model	Engine	Ignition	Lighting	WB	Tires	Rims	Pass.	Pass.	Sedan
OAKLAND 4-B	6-21x4 Remy	Remy		112	32x4	SS	1075	1075	1660
OLDSMOBILE 45-A	8-21x4 Delco	Delco		120	34x4	SS	1700	1700	1700
37-A	6-21x4 Remy	Remy		112	32x4	SS	1295	1295	1895
OLYMPIAN 45	4-31x4 Conn	A-Lite		113	32x3 1/2	SS	1240	1240	1240
OVERLAND 90	4-31x5 Conn	A-Lite		106	31x4	C	965	965	1465
OWEN-MAGNETIC W-43	6-4 x5 Bosch	Own		142	35x5	SS	5500	5500	6500
PACKARD 3-35	12-3 x5 Delco	Bijur		128	35x5	QD	4800	4800	5150
PAIGE 6-40	6-31x4 Remy	G & D		117	33x4	SS	1555	1555	2550
6-45	6-31x4 Remy	Remy		127	35x4 1/2	SS	12165	2060	2650
PATERSON 6-45	6-31x4 Delco	Delco		120	32x4	C	11595	1595	2025
6-48	8-31x5 A-Kent	A-Lite		125	34x4	SS	2700	2700	3530
PEERLESS B-5	6-41x5 Bosch	Watts		142	35x5	QD	6400	6400	6500
PIERCE-ARROW B-5	6-31x5 Delco	Delco		120	32x4	SS	11000	1550	2350
PILOT 6-45	6-31x5 Delco	Delco		123 1/2	41	SS	2585	2585	3585
PREMIER 6-C	4-41x4 Remy	Remy		120	34x4	SS	1395	1395	2175
REO REVERE	4-41x5 Bosch	Watts		131	32x4	SS	3850	3850	3850
ROAMER C-4-54	6-31x5 Bosch	Bijur		128	32x4	SS	2675	2675	3450
SAXON Y-18	6-21x4 Remy	Wagner		112	32x3 1/2	SS	11195	1195	1195
SAVERS SIX-42	6-31x4 Delco	Delco		118	32x4	SS	1665	1665	1665
SCRIPPS-BOOTH SIX-39	6-21x4 Remy	Remy		112	32x4	SS	1295	1295	1885
SENECA 4-31x4	6-31x4 Remy	Remy		108	30x3 1/2	C	990	990	990
SINGER 19	6-4 x5 Bosch	Watts		139	33x5	SS	5000	5000	7200
STANDARD H	8-31x5 Dixie	Watts		127	34x4 1/2	SS	2750	2750	3800
STANLEY Steamer	2-4 x5			130	35x4 1/2	SS	3450	4950	4950
STEARNS SKIA	4-31x5 Remy	Remy		125	34x4 1/2	SS	12250	2250	2475
STEPHENS STUDEBAKER	6-31x4 A-Lite	A-Lite		123	32x4	SS	1775	1850	1775
6-31x4 Remy	Wagner	Wagner		112	32x3 1/2	SS	1225	1225	1785
6-31x5 Remy	Wagner	Wagner		109	32x4	SS	1585	1585	2385
6-31x5 Remy	Wagner	Wagner		126	33x4 1/2	SS	1965	1965	1965
6-31x5 Remy	Wagner	Wagner		120	32x4 1/2	SS	2750	2850	2850
6-41x5 Remy	Wagner	Wagner		118	32x4	SS	2285	3185	3185
6-41x5 Remy	Wagner	Wagner		114	32x4	SS	1525	1525	1525
6-41x5 Remy	Wagner	Wagner		124	33x4 1/2	SS	2035	1910	2065
6-41x5 Remy	Wagner	Wagner		125	32x4 1/2	SS	2590	2590	3190
6-41x5 Remy	Wagner	Wagner		118	33x4	SS	1775	2490	2700
6-41x5 Remy	Wagner	Wagner		121	34x4 1/2	SS	1725	2750	2750
6-41x5 Remy	Wagner	Wagner		120	33x4 1/2	SS	1625	1625	1625
6-41x5 Remy	Wagner	Wagner		138	35x5	QD	4350	4350	5600

ABBREVIATIONS: "A" Auto-Lite, "Conn" Connecticut, "G & D" Gray & Davis, "Elsmann" Elsmann, "L-N" Leeco-Neville, "N.E." North-East, "Watts" Westinghouse, "W. Lord" Ward Leonard, "SS" Straight Side, "QD" Quilt Detachable, "C" Custom.



C-3/7 r 6/4

# MOTOR WORLD

for  
**DEALERS, JOBBERS AND GARAGEMEN**

Volume LIX  
Number 13

PUBLISHED WEEKLY AT 239 WEST 39th STREET  
NEW YORK, JUNE 25, 1919

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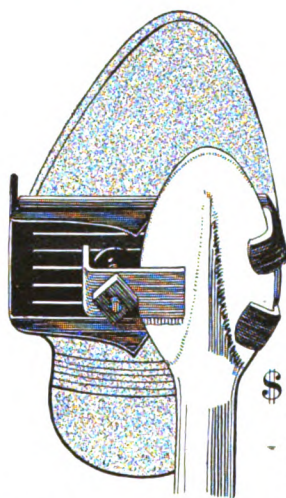
**CORDS 50,000 MILES**

**GODS IN THE LONG RUN ES**



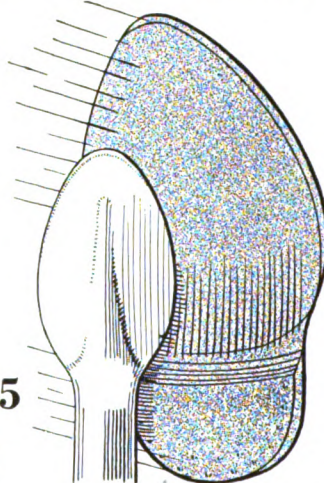


Look at These Illustrations



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Driver's  
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# MOTOR WORLD

DEALERS, JOBBERS AND GARAGEMEN

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PUBLISHED EVERY WEDNESDAY BY

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## Editorial Contents

Who Won the War?.....	8
New Allen 43 .....	12
New Bodies on Stephens Post-War Models....	14
Modern Methods in Ford Service.....	17
The Law .....	22
Shooting Troubles .....	23
Repairshop Short Cuts .....	24
Editorial Observation .....	26
Letters From Readers .....	27
Scientific Observation .....	29
The Retail News .....	31
Regular News Department .....	31-42
Automotive Equipment .....	33
Hudson Super Six.....	34
News Letters from Important Centers.....	36
Coming Events .....	48
Specification Tables .....	48A

Advertisers Index on Pages 172-173

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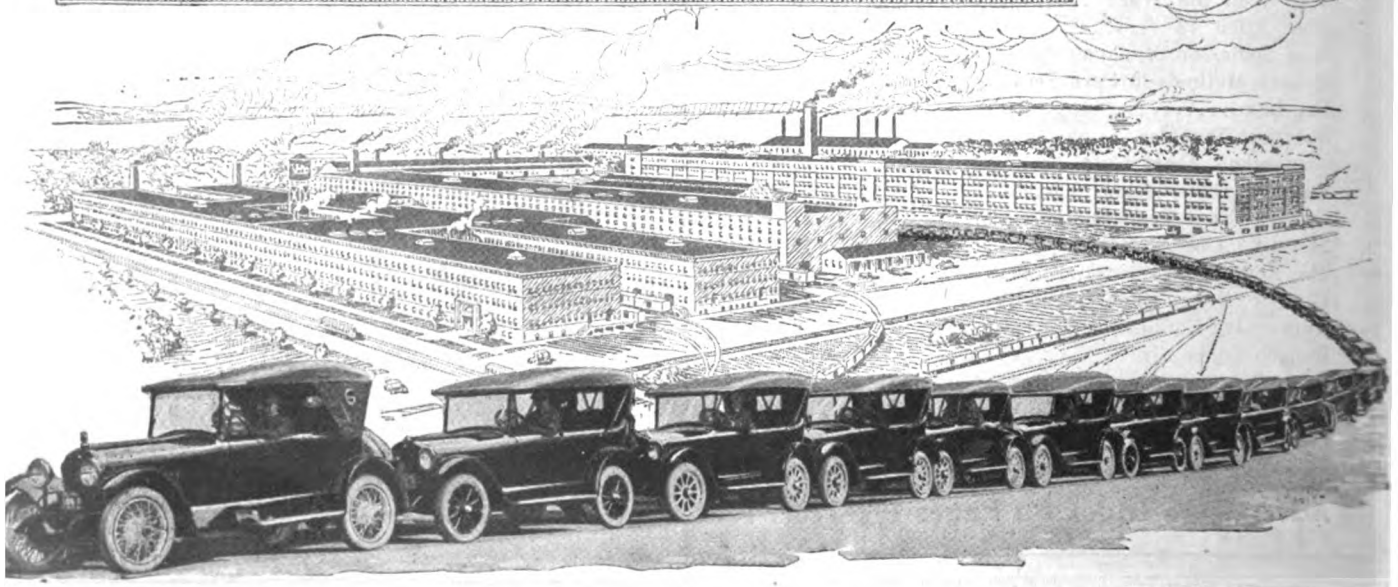
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18

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## MOTOR WORLD

## The Automotive Dealer's Guide

in this territory there are hundreds of Dealers and Garagemen who are subscribers to and regular readers of Motor World, and all report the great benefit they have received in the way of better merchandising information, better and helpful methods for use in the Shop and Garage, Car Sales helps, etc.

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You profit by our efforts in this direction. You are benefited by every increase in the merchandising and business efficiency of dealers in the Automobile, Truck and Tractor field resulting from the constructive work which MOTOR WORLD is doing. It is, therefore, from your own point of view, very desirable that every one in your organization should be regular readers of MOTOR WORLD.

We do not feel one bit selfish in inviting your co-operation to the end of aiding MOTOR WORLD in its constructive campaign of putting the Automotive Industry upon a higher plane—up to a standard that will improve the status of everyone in the business in every community. We are all looking for guidance into channels of better methods—which mean greater volume, and increased profits.

You know how carefully, systematically and intelligently MOTOR WORLD has done its work in the past. For 1919 they have even bigger and more important plans to work out for dealer benefit.

The annual subscription price of MOTOR WORLD is \$3.00. You may send your order for MOTOR WORLD through our office if you wish. We will be glad to handle your subscription for you, and see that you get the publication regularly each week.

SELLING LIGHT  
TION AND D

What is the  
How  
th

THE above reproduced letter over the signature of W. E. Wissler, and page 18 from the Herringdealer bulletin, combine in the making of a complete story that is of interest not alone to dealers everywhere—but to manufacturers who have a merchandise message for the trade that is so well covered by Motor World.

Wholesale  
AUTOMOTIVE SUPPLIES

June 16th, 1919

Mr. Charles B. Shanks, Manager,  
Motor World,  
231-241 West 39th Street,  
New York City.

Dear Sir:

Just to prove that this company believes in the service you are rendering, I am enclosing herewith a copy of our latest bulletin and would refer you to page 18. If at any time we can be of service to you, kindly command us.

Yours very truly,

HERRING MOTOR COMPANY

General Manager







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Every day service of heavy industrial trucks tests parts like battles test the mettle of men.

## AHLBERG REGROUND BEARINGS

have been tested under the grinding service of heavy loads and constant use and have proven themselves

*The nearest Ahlberg Branch will explain our proposition.  
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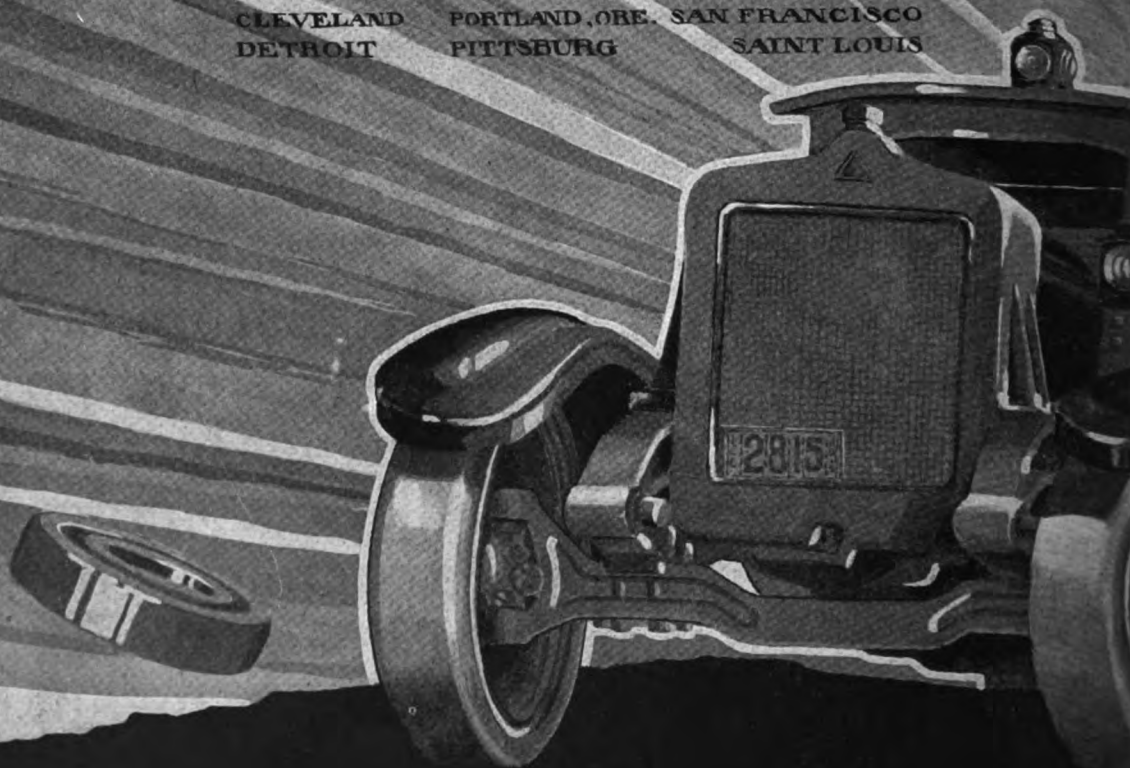
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RPM



# MOTOR WORLD

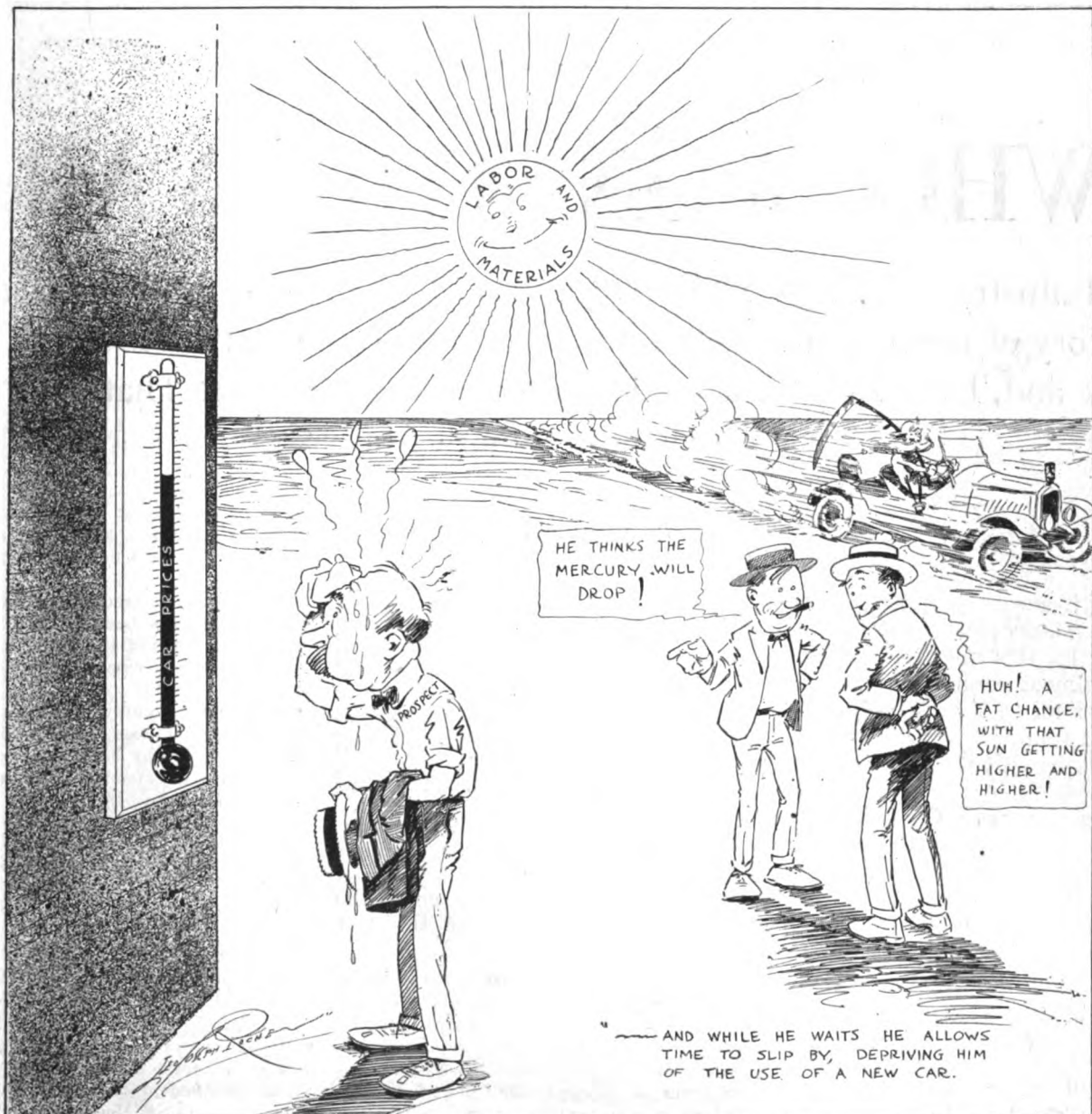
DEALERS, JOBBERS AND GARAGEMEN

Vol. LIX

New York, U. S. A., Wednesday, June 25, 1919

No. 13

## It's Rising, NOT Setting







*A convoy of trucks with drivers ready to proceed from base port to the general headquarters at Tours for assignment at the front*

# WHO WON THE WAR?

The Industry of Which YOU Are a Part Helped Considerably—Read the Story of the Man Who Went to France and Saw What the Motors Did and Then Be Just a Little More Proud of the Fact That You Are an Automobile Man

*By Chester W. Shafer*

**E**VER since the signing of the armistice on November 11, 1918, this question has been one of almost amusing importance wherever an O. D. covered soldier could be found.

It was howled tauntingly at the Military Police . . . hurled laughingly at the Quartermaster Corps . . . disputed by the medicos and argued by everyone. The marines said they did it at Chateau-Thierry, while the doughboys declare they put on the finishing touches in the Meuse-Argonne.

The Signal Corps came in with a file of results and the engineers averred that, but for their spades, the fighting would still be going on.

Every branch of the service registered in the advanced zones claims the distinction. And, until the present

*Chester W. Shafer went to France with a party of newspaper men and has written this story of how the motor vehicle helped win the war.—EDITOR.*

generation has passed the argumentative stages of existence, the disputes will go on—the assumptions will continue—and the credit will go to the man with the loud voice and the most time to waste.

However, the doughboy will receive many decisions—and justly, too. So will the engineers—the artillerymen—and the marines. But, in all the arguments, few will pause to consider the S. O. S.—(Service of Supply)—and not many will entertain the entrance of the Motor Transportation Corps.

This important branch of the service

is seldom considered—infrequently mentioned. It was back in the "Safe and Sound" areas and is scoffed at by those who were up where the big whizzes whined.

But it is an entry in the race for the high honors. It was a vital, indispensable factor. And but for it the war never could have been won in the record time that is chalked up for it.

The members of the corps cannot lay claim to the fine distinctions of the doughboys—but they can demand recognition as exceptional aides. And they have an honest and legitimate right to answer "Here" when the next argument comes up and the eternal question of the American Expeditionary Forces is introduced—"Who Won the War?"

As proof of this—and to show just a few phases of the work of the motor truck in connection with the war—the facts obtained at the huge motor reception parks at St. Nazaire and Bordeaux, France, are offered. These facts were obtained from the officials in charge of





*There were casualties in the Motor Transportation Corps as well as with the combat outfits. This is the cemetery at St. Nazaire where hundreds of graves of men who died from natural causes are seen.*

the park and were given, for the first time, for publication, to the members of the A. E. F. Press Special which made a tour of France and Germany in April.

The figures are surprising—eye-opening. They show—gloriously—what part the American motor truck had in making the world safe for democracy. And they show, beyond the possibility of doubt, that the Motor Transportation Corps, because of its monster efforts and services, has a place on the list of entrants in all the “Who Won the War?” contests of the future.

The motormen and mechanics did not win the war in the sense that they rifled or hand-grenaded or Bengal-flared the boche up to the Rhine. But they turned out the machines. And the machines made good. They made good because they furnished transportation—transportation for troops and supplies—transportation for everything.

They established communications. They kept the connections perfect. They provided the ammunition. They were the “wheels of victory.”

And every one of these wheels passed through the great motor reception parks. That's why they come into the zone of credit.

The United States knew but little of

the application of motors in modern warfare when war was declared in April, 1917. A few trucks had been used down on the Mexican border and there was a demonstration of practicability. And with this as a basis the plans for an enormous complement were made.

From France, in a very short time came demands for speed—and VOLUME.



*Above—Motor trucks in difficult hole on way from assembly plant at Bordeaux to duty. The tractor dragged them through.*



*To the left—Parking space for only a few at St. Nazaire.*





And the gigantic and powerful organization was quickly got under way.

On June 27, 1917, the first truck companies were landed in France, four of them from Fort Sam Houston, Tex. And at St. Nazaire this tiny nucleus grew—grew and was embellished until—at the close of 1918—it had spread to all the base ports and had given to the American Expeditionary Forces a total of over 200,000 trucks and motor vehicles.

At St. Nazaire the only site available for a reception park was found to be an open space on both sides of the Boulevard d'la Ocean at Ville-Es-Martin, a suburb. This space comprised two fair-sized fields and a strip of land from 50 to 100 feet wide between the boulevard and the sea wall. Upon this site the men set to work to erect barracks and temporary buildings for the assembling of bodies and for general carpenter work.

The condition of the ground was bad and there was no drainage. The men were forced to wear hip boots, and in the foot-deep mud they toiled from 12 to 15 hours a day shaping the construction. Within 30 days trucks, ambulances and touring cars began to arrive on the big freight transports and soon they were being handled at the rate of 30 a day.

#### Equipment for Handling Trucks

To handle these there was the equipment of the Machine Shop Truck Unit which was carried complete on a 3-ton truck, and such tools as could be taken from the cars when they arrived. Some French tools were purchased and a stock was gradually accumulated. Men worked in the rain, mud and snow at delicate assembling with makeshift tools. And added to the handicap of the weather was the problem of getting more or less technical work done with unskilled labor.

For months the assembly details changed daily, but ultimately a permanent detail was assigned and this difficulty was passed. In retrospect the obstacles attendant upon the initial steps were almost insurmountable. And but for a big idea they might have been.

In the minds of every officer and every enlisted man was the thought of adequately furnishing the men at the front with transportation. Unrewarded by the

romance and the thrills of the front lines—with no promise of distinguished service crosses and valor medals—minus all the exhilaration and excitement of the advance and the fight, these motor men labored, unceasingly and valiantly, and eventually achieved.

They built the foundation and continued the advance until the objective was reached. And a casual survey of the objective is convincing proof of the high part that was played.

That success was achieved is shown by a comparison of the figures of the number of vehicles issued ready for use, which increased from one car each for the months of June, July and August, 1917, to 250 in September and finally to the high-water mark of 2702 in December, 1918. *That's growth. And it was a real objective. Just as real as Sedan or the Vesle.*

Here is how the Motor Transport Corps operated:

All motor vehicles were received from the United States packed in pieces in 6-ton crates. Unloaded at the docks at St. Nazaire, the crates were taken to the great store yards at Montoir, a few miles distant. From Montoir the crates were drawn as desired and taken to the sub-assembly yards at Parc de Means. Here they were unloaded by steam crane equipment, sub-assembled, and put in condition for towing to the main park. A personnel of 300 men was maintained permanently at Parc de Means for this one purpose. Upon arrival at the main park the usual processes of construction were applied and the cars were tuned up for transportation to Tours or Romorantin and there assigned to duty.

#### 1200 Cars a Day

During each working day, even at the present time, 1200 motor vehicles pass the gates of the reception park. And some idea of the gigantic work that was done may be gleaned from the fact that the park has produced, *in a single day shift, 162 motor vehicles; in a single week, 737; and in a single month, 2650. Up to the first of March, 1919, the astounding number of 25,851 motor vehicles had been produced at this park, which number represents almost one-third*

*of the motor vehicles used in connection with the great war.*

*The keenest record that the park holds was established on Christmas Day, 1918. While the folks back in America were entertaining the famous old Saint, and were bubbling over with enthusiasm and thanks that the war was done, the men toiled 18 hours without a let-up, and, by so doing, put on the largest single convoy in the history of the A. E. F., and probably of the world, consisting of 360 trucks and cars.*

Those figures represent work. And great, big, human work. It was not the work of the rifle—of the artillery—of the hand-grenader. It was the work of skill and determination. *And it was the sort of work that made victory possible.*

The area under Motor Reception Park No. 701 covers 52 acres.

There are 25 miles of trackage systems.

There are shops, foundries, machine "nests" and barracks for the men.

There is a base section mess hall where all the men are fed.

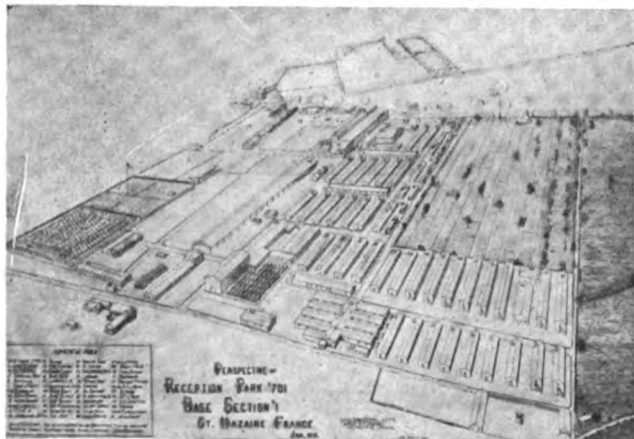
In one shop alone, which cares for heavy trucks, there are 53 pieces of machine tool equipment.

#### New Ideas Facilitate Assembly

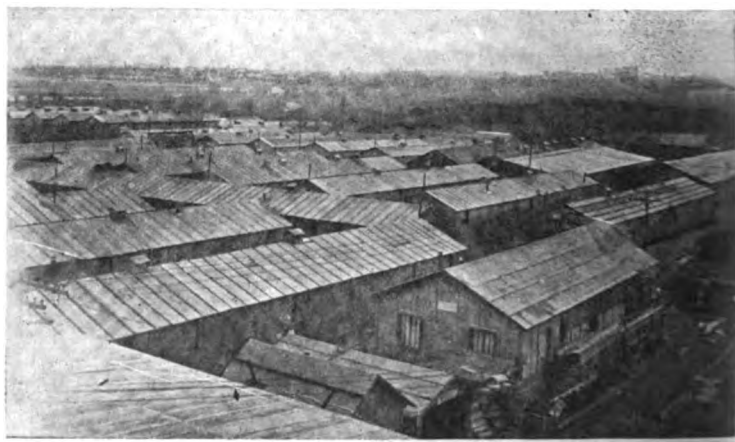
In the work of assembling many new ideas were originated. These have been applied and many unique and highly specialized devices for use in assembling, repairing and testing may be found there. Many of these original devices have been standardized and are used throughout the entire Motor Transportation Corps.

The personnel of the park at present consists of 3000 enlisted men and 130 officers. It is composed almost exclusively of technical men all picked for their expert and practical knowledge of motor practice. Undoubtedly they represent one of the highest grade organizations in France. From this camp officers and men have been drawn to establish and maintain Motor Transport activities in Belgium, Holland, England and Germany.

To their further credit is the fact that most of the men in this camp, as well as every other camp in the A. E. F. where



Perspective view of Reception Park 701, Base Section No. 1, St. Nazaire, France



General view of the barracks and buildings of Motor Reception Park 701, Base Section No. 1, St. Nazaire, France



the M. T. C. is represented, will remain until all is over.

*When all the doughboys and Marines have been discharged, and all others have returned to civvies, the M. T. C. men will lock up France and bring the key home and hang it around the neck of the Statue of Liberty.*

The Motor Reception Park at St. Nazaire was the largest in France. There were others at Le Havre, Marseilles and La Pallice. And more at smaller ports. But the park that ran a close second to the park at St. Nazaire, and which deserves almost an equal share of the credit for the motor success of the war, was at Base Section No. 2, at Bordeaux.

#### Work Accomplished by Small Personnel

This park was not started until Nov. 16, 1917, nearly four months after the park at St. Nazaire was begun. Then Captain B. L. Maloney, Q. M. C., with a convoy of 10 Packard 1½-ton trucks arrived overland from St. Nazaire. The personnel consisted of 12 enlisted men from the American Field Service with the Mallet Reserve of the French Army, and 126 civilian employees.

With this small personnel the work of constructing the park and caring for shipments was begun. The first trucks received from the United States were eleven Garfords. These arrived at Bassons Docks Dec. 5, 1917. About the middle of the same month 54 passenger cars, 12 trucks and 30 motorcycles came in.

From that opening to Dec. 1, 1918, a tremendous amount of work was accomplished. In all 6000 cargo trucks and 1000 light delivery trucks were received, assembled and dispatched in this period. Besides that, the men cared for 1400 passenger cars, 500 ambulances, 400 trailers and 3000 motorcycles.

During that first year of the park's existence 13,000 motor vehicles were handled. During November, 1918, 3389



*The "Boche" prisoner makes a good man for "police" details around a motor camp. These "Jerries" in U. S. uniforms and fatigue clothes render slow assistance and take care of most of the distasteful work. They are watched constantly by armed guards, but they never make an attempt to escape*

vehicles were registered as passing through. Up to April, 1919, 5861 more vehicles were received, making the total amount for the park stand at 18,861.

Besides the work of assembling, conveying and repair, the supply department for the entire area of 150 by 225 miles of Base Section No. 2 is handled by this motor park. At the present time there are 3046 motor vehicles operated from the 26 pools throughout the base. The services of 122 officers and 3744 enlisted men are required for carrying on this work and these will be maintained until all other units have left France for the States.

Those are the stories of the two greatest motor parks of the A. E. F. The figures are convincing. They show the vastness of the motor side of the war. They demonstrate the real and concrete value.

Considered from all angles, the motor cannot be denied. And the work of the men of the Motor Transport Corps must be recognized.

When all angles of the situation overseas are gathered together, credit must be given. *And the great motor circles of the United States may feel proud of the representation over there—and of the showing of that representation.*

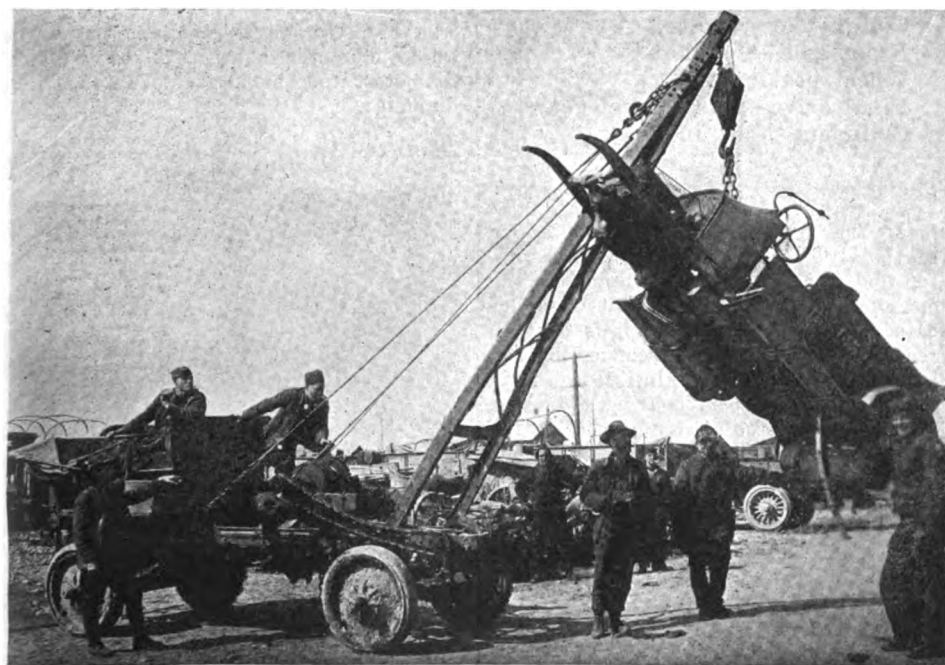
Men and vehicles alike are deserving. The Distinguished Service Crosses are in order.

The motor—the truck—the car—all played a prominent part—just as prominent a part as that of the doughboy—the marine—the engineer.

And when all is over—and a future discussion develops around the question of "Who Won the War?" any veteran of the Motor Service in France can dignifiedly and honestly step forward and say: "I helped—considerably."

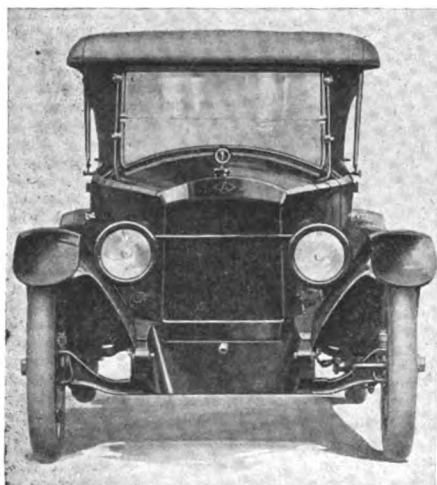
#### United Motors in Canada

MONTREAL, June 20—L. G. Honodel, special representative of United Motors Service, Inc., with general offices at Detroit, is in Montreal to investigate the local trade and service conditions preliminary to appointing an authorized distributor. A branch of the company has been opened at 88 Adelaide Street, West, Toronto.



*Truck equipped with crane used in the salvage work at St. Nazaire and Bordeaux*





*A front view of the new Allen, which is now to be made in Columbus*

# ALLEN 43

## One of the First Back-to-Business Débutantes

**A**MONG the first of the manufacturers to get cleaned up on war business and get back to peace-time activities with a brand new car is the Allen Motor Car Co., Columbus, Ohio. The car has been entirely re-designed from one end to the other and bears practically no resemblance to previous models made by the company when located at Fostoria. The price has been set at \$1295, which is a slight advance over previous prices on the Allen models, but since the old cars were being made advances in materials and labor have justified the increase.

Compared to the last Allen car, the engine has a slightly smaller piston displacement, the bore being  $3\frac{1}{2}$  x 5 in. as against the old dimensions of  $3\frac{3}{4}$  x 5 in. It is claimed that in spite of the reduced dimensions the new engine shows superior characteristics. A three-bearing crankshaft is used in place of the two-bearing design and the bearing diameters have been materially increased. The cylinders, which are cast in block, have a detachable head. Accessibility is one of the main features of the engine design and it is quite possible, for instance, to remove the entire oil line from the front end of the engine without disturbing any of the other parts. The oil pump is located on the outside of the engine and it is only necessary to remove two cap screws to take the entire unit off for inspection or repairs.

Another point which is unusually accessible is the valve push rod guide. The crab which holds these in place is held by a single cap screw located so that it can be taken out very readily when the valve action cover plates are removed, the crab then comes out allowing the push rod guide to be lifted out, once the valve assembly is out of the way.

The cylinders are cast in block of grey iron. The pistons are also iron castings and are equipped with three rings, one

of them is a patent ring, a product of the Piston Ring Co., and the others are two plain eccentric rings. The pistons are 4 in. in length and have  $\frac{7}{8}$ -in. piston

### Specification Table

Price—\$1295

Engine—4 cylinders,  $3\frac{1}{2}$  x 5 in.  
Crankshaft—3 bearing type  
Cooling system—Thermosiphon  
Starting and lighting—Auto-Lite  
Carbureter—Stromberg  
Clutch—Borg & Beck  
Front axle—Columbia  
Wheel bearings—Bock  
Final drive—spiral bevel gears  
Cylinders—Cast in block

pins. The rings are all located above the pins. The pin bearing is in the piston and the pin itself is clamped in the end of the rod, the clamp bolt being located on an angle so that it is easy to reach from beneath. The connecting rod is an I-beam drop forging 10 $\frac{1}{2}$  in. in length with a 2 $\frac{1}{2}$ -in. bearing diameter. The rod and piston assembly weigh 5 lb., 4 $\frac{1}{4}$  oz.

The crankshaft bearings are babbit, bronze backed. The size of the main bearings are: front, 2 $\frac{3}{16}$  in. diameter by 2 $\frac{1}{2}$  in. length; center, 2 $\frac{1}{2}$  by 2 $\frac{1}{4}$ ; rear, 2 $\frac{1}{16}$  by 3 $\frac{1}{2}$ . The connecting rod bearings are 2 $\frac{1}{2}$  by 2 $\frac{1}{4}$ .

The valves and auxiliary apparatus are driven by a four-gear train of helical pitch. These gears are steel working against cast iron. The camshaft is 1 $\frac{1}{2}$  in. diameter of case hardened steel. The oil pump is driven off the rear end of

the camshaft. The thrust on the camshaft is taken by a spring and plunger located in the front end.

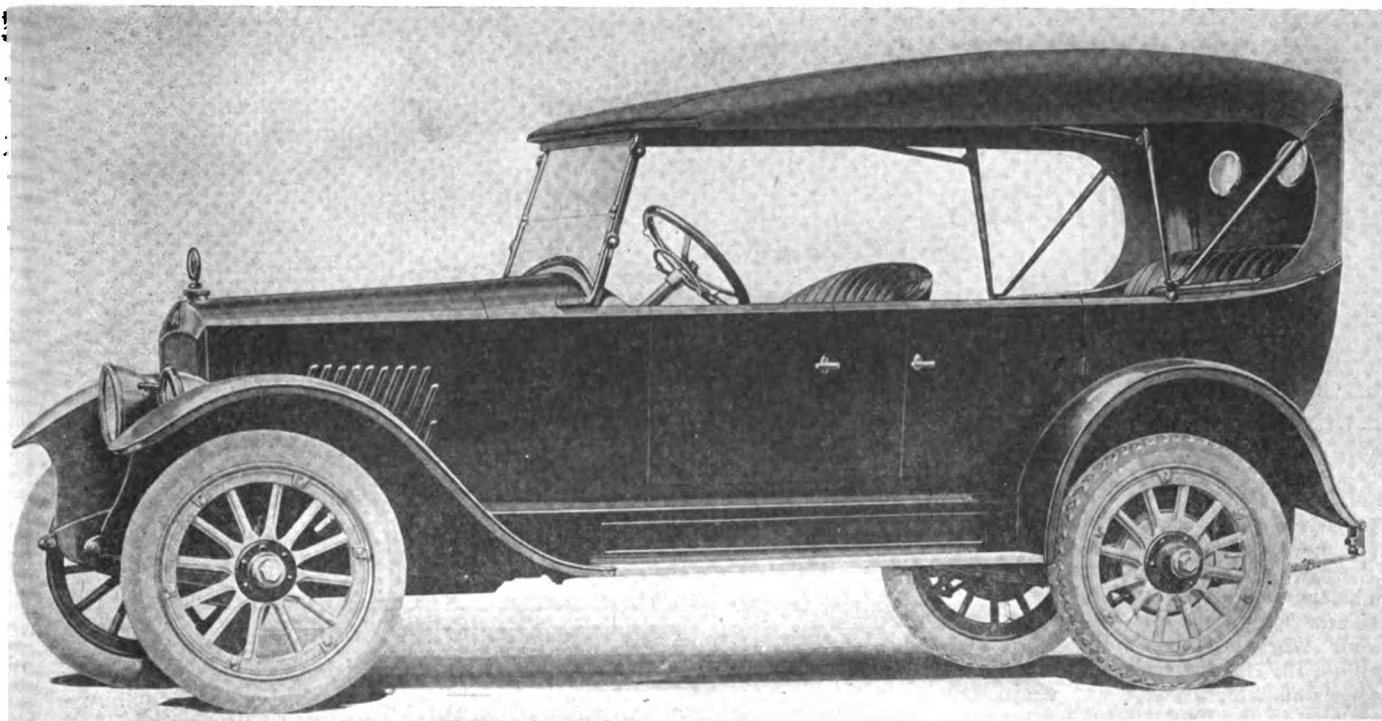
Firing order is 1-2-4-3, the valve timing being such that the intake opens and the exhaust valve closes at 10 deg. after upper center. The intake closes at 44 deg. after lower center and the exhaust opens at 48 deg. before lower center.

The cam followers are of mushroom type. The valves are 1 $\frac{1}{2}$  in. diameter in the clear with nickel steel heads and carbon steel stems for the intake valves and tungsten steel valves for exhaust. The valve and spring assemblies are enclosed with readily removable plates, one screw holding each of the two plates in place. The valve stem guides are cast iron 3 in. in length, the exhaust valve guide diameter being .375 to .376 in. diameter, and the intake .374 to .375 in. diameter.



*The rear of the body shows the advance in body design accomplished in the new Allen*





*The new Allen touring car, selling for \$1,295*

The manifolds are designed to provide a hot spot, the intake being heated from the two center exhaust ports. The exhaust is discharged from the front end of the manifold and is kept clear of the lower part of the body so as to keep the front compartment cool in summer time. The hot spot is an ingenious design which catches the divided stream of the intake, allowing the unvaporized part of the fuel to impinge against the hot wall.

The cooling system is operated by thermo-syphon circulation. The engine is so designed, however, that should it be desired for any special purpose to install a pump, it is possible to do so. However, the water-jackets are so ample as to be able to take care of thermo-syphon circulation under the most adverse circumstance. The water jacket space has been very materially increased over previous Allen models. The radiator is a Mayo honeycomb type and the water capacity of this is also exceptionally large.

The oil pump is a Viking of gear design located outside of the crankcase and operated on the end of the camshaft. The oil is circulated direct to the main bearings and through an overflow to the timing gears and by means of a pocket to the generator shaft. The return flow maintains a level in the splash trough. There is an oil governor which controls the flow by means of a spring and plunger located on the front end of the engine. This can be adjusted by removing the cap above it on the crankcase just behind the timing gear housing. The entire oil line can be pulled out by removing the pump cap screws and the oil line connection screw at the center of the line, and then taking out the connection at the rear end. These connections can be removed by dropping the oil pan, after

which the entire line is removable through the front end of the case.

Starting and lighting is by the Auto-Lite two-unit system, the electrical controls being mounted on the dashboard. Ignition is by the Connecticut system with the automatic circuit breaker, and the spark plugs are Champion-Toledo.

The carburetor is a Stromberg with a hot air connection. The air control is mounted on the instrument board.

A 10-in. Borg & Beck dry disk clutch is housed within the flywheel and delivers the drive to a new gearset which is also an Allen product. The gearset is mounted as a unit with the power plant. Annular ball bearings are used on the main shaft and the speedometer is driven from the rear end of the main shaft with the drive enclosed in oil. All of the gears used in the gearset are  $\frac{5}{8}$  in. in face width. The gear ratio provided by the gearset and the rear axle combined are as follows: High gear, 4.6 to 1; Second gear, 7.95 to 1; Low, 14.9 to 1, and Reverse, 18.5 to 1.

The front axle is a Columbia one-piece I-beam type, drop forged with carbon steel. The front wheel bearings are of Bock rollers. The steering gear is a worm and full gear type adjusted by an eccentric bushing. The worm operates against ball thrust bearings and is controlled by a 17-in. steering wheel with corrugated rim.

The drive is through spiral bevel gears with  $1\frac{1}{4}$  in. face width. The differential is mounted on Bock taper roller bearings with Bower roller bearings in rear hubs. The drive is Hotchkiss type and the propeller shaft is hollow and equipped with two Detroit ball bearing universal joints.

The brakes are mounted on the rear wheels, the service brakes being  $12\frac{1}{2}$  by  $1\frac{3}{4}$  external contracting, and the hand brake  $12\frac{1}{4}$  by  $1\frac{1}{4}$  in. internal expanding.

This is  $\frac{1}{4}$  in. more diameter than used last year.

The springs are alloy steel, semi-elliptic, the rear being underslung and the front 36 in. long.

Fuel is fed from a square tank hung at the rear and having 16 gal. capacity by means of the Stewart Vacuum System. The tank is equipped with a gasoline gauge.

The other instruments provided on the car are mounted on the instrument board, including electric control, Stewart speedometer, ammeter, carburetor air control, automatic ignition indicator, electric lamp and pressure oil gauge.

The car is mounted on a 110-in. wheel-base, which is 2 in. shorter than a year ago, although through design the car is roomier. The width of the tread is 56 in., road clearance 10 in., and wheel size 32 in. equipped with 32 by 4 in. Miller tires.

The top is a one-man type of Fabrikoid with two plate glass windows in the rear. The door curtains open with the doors and a top boot encloses the bow sockets.

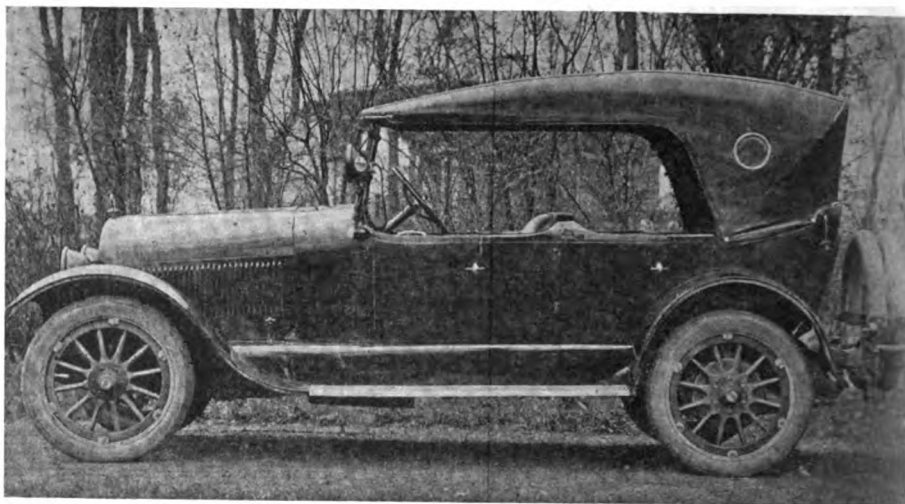
The car is finished as a standard in dark blue and is equipped with starter, double bulb headlamps, tail lamp, Klaxon horn, Stewart speedometer, rear tire irons, extra tire rim, ventilating windshield, robe rail and foot rail, tool kit, tire repair kit, tire pump, jack, instruction book, and Boyce motometer.

#### Napoleon Building Trucks

TRAVERSE CITY, MICH., June 19—The Napoleon Motors Co., manufacturers of Napoleon trucks, has not gone out of the passenger car business, as has been reported, but is diverting its production to a great extent to the manufacture of trucks.



# New Bodies on Stephens Post-War Models



*The Model 84 Stephens Salient Six Touring Speedster which has a 57-hp. engine and 122-in. wheelbase*

**T**HREE entirely new body models mounted on refined designs of the previous chassis models combine to make the new series 80 Stephens Salient Six now being delivered by the Stephens Motor Works of the Moline Plow Co., Moline, Ill. So far there are three open bodies and later a coupe and sedan will be added to the line.

The post-war bodies are longer and lower than on previous Stephens models and this has permitted the designers to make the interiors roomier. More room is made available for a number of improvements, such as wider doors, tilted windshield, high hood, narrowed and tapered into the body and lower and deeper seats. The upholstery is double padded with real curled hair and mounted on Marshall cushion springs.

Body panels, dash and instrument board are of quarter-sawed walnut.

Provision is made for carrying parcels and so on, and in addition a touring toilet kit is placed in the right front door and complete tool kit in the left front door, both under lock and key. Anti-squeak shims run the entire length of the frame and the sides of the car are low and slope gracefully toward the rear, ending with a rounding dip continued by the fenders and frame.

The rear body of the roadster, model 82, contains two large parcel and baggage compartments, one with side door opening. It is fitted with hand-tailored

## DETAILS OF THE STEPHENS SALIENT SIX

**Engine**—Six-cylinder, cast in block, with removable head, 3¼ by 4½ in.

**Fuel System**—20-gal. tank at rear with Stewart vacuum feed.

**Cooling**—Thermosyphon circulation with honeycomb radiator.

**Electric System**—Auto-lite starting, lighting and ignition, with USL battery.

**Steering**—Worm and gear adjustable, 18-in. wheel.

**Lubrication**—Full pressure system. Oil pump driven from camshaft.

**Rear Axle**—Semi-floating with spiral bevel gears.

**Springs**—Semi-elliptic.

**Wheelbase**—122 in.

**Rims**—One-piece, quick-detachable.

**Wheels**—Wooden, natural finish.

**Tires**—32 by 4 on models 82, 83 and 84; 38 by 4½ in 86.

**Equipment**—Dimming headlights, rain-vision windshield, tire pump driven from transmission, speedometer, spare tire carrier, tire gage, etc.

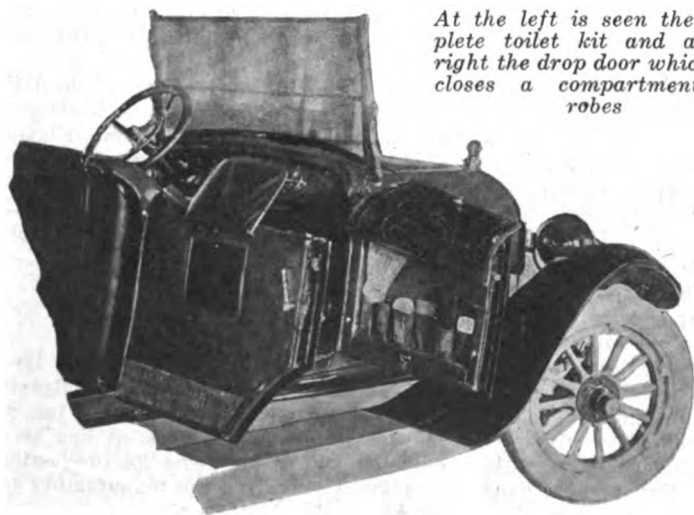
snug top and wind-sweep side curtains. The standard color is olive drab.

The four-passenger touring speedster, model 84, presents a narrow, long, low fuselage-type body built for speed and touring comfort. It is equipped with semi-victoria hand-tailored top and has a walnut-paneled compartment in the rear of the front seat 32 by 37½ by 4 in., equipped with robe rail and lock.

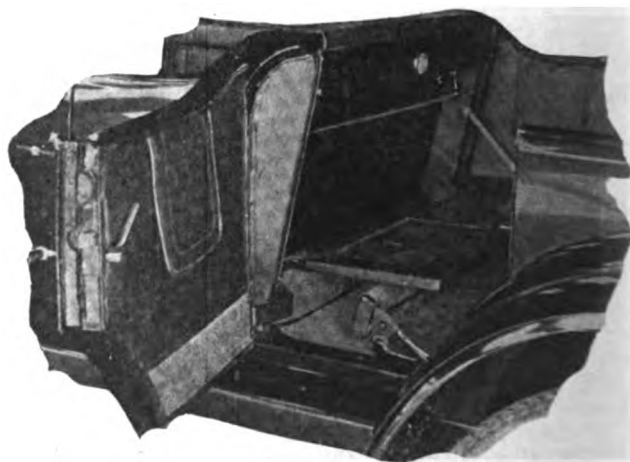
The six-passenger touring car, model

86, has the same general appearance as the four, but the body is longer. It has a standard hand-tailored touring top and is finished in blue.

The chassis retains the overhead-valve engine and is changed only in details. Starting, lighting and ignition is Auto-lite instead of Delco, with a USL battery instead of a Willard. The oil pump is in the sump, where it runs in oil. It is shaft-driven from the cam-



*At the left is seen the complete toilet kit and at the right the drop door which discloses a compartment for robes*



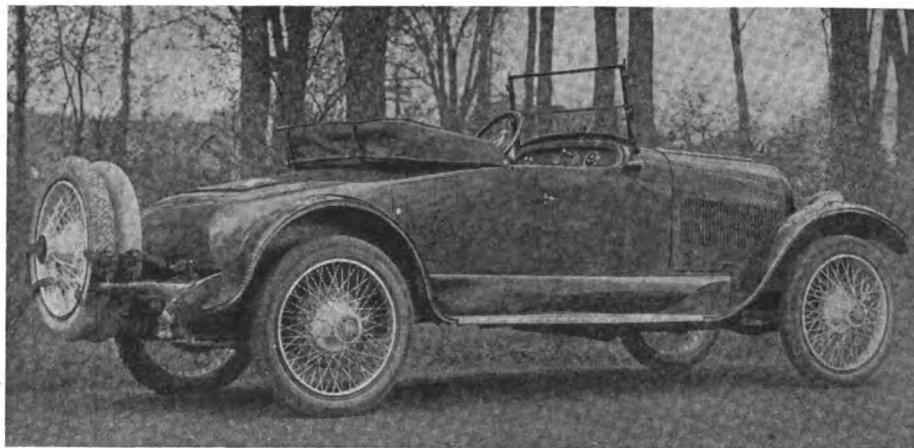


shaft, varying the oil feed according to the speed of the engine. Another refinement is an enlarged land on the pistons between the second and third rings.

The rear springs are underslung, permitting lower body and lowering of weight. The weight below the springs has been reduced to a minimum, and the weight above the springs distributed equally on the four wheels. The wheel-base has been lengthened 4 in. and the frame is correspondingly stronger and longer and compensates the considerably longer post-war bodies. The new design lowers the rear of the frame and gives a lower body and greater riding comfort.

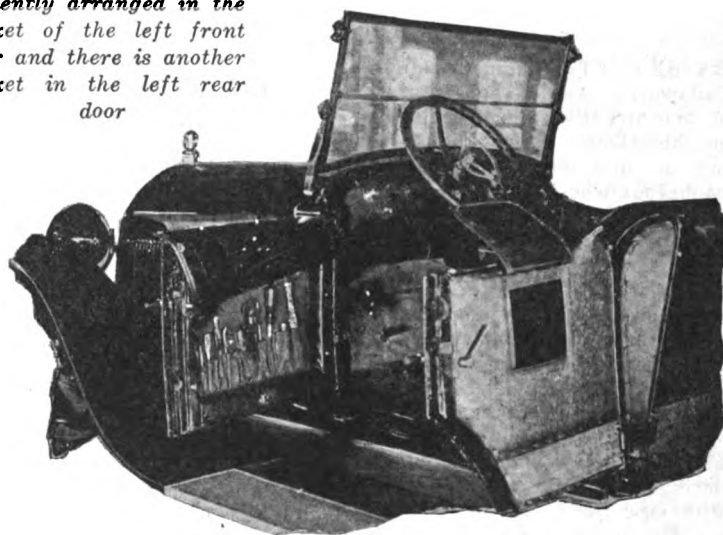
Several improvements have been made also in the semi-floating rear axle. There is a new one-piece pressed steel axle housing with positive oil-locking construction and spring seats riveted on the main carrying housing. The Brown-Lipe-Chapin gears are a separate unit and can be inserted or removed without disassembling the rear system. The tenspline axleshaft construction is used instead of the key construction, driven by spiral bevel gear. The axle-shafts also are removable without disturbing associated parts.

Block roller bearings are used throughout, seven sets in the rear axle. Double thrust bearings are used in the hubs. The brake rods now run directly back from the pedals and operate on arms from near the center of the axle housing. Neat spring-cap oil cups replace the grease cups on the spring bolts. The gasoline tank is enlarged to 20-gal. capacity and is reinforced to prevent collapse or bulge. It is at the rear of the frame in a protected position, with straight filler pipe in place of curved. Boyce Moto-Meter, Stewart-Warner speedometer, Fedders radiator and new type Stanweld rims are to be noted among the equipment.



*Model 82 Stephens Salient Six 2-passenger roadster. The lines slope slowly down to the rear and end with a rounding dip. The rear body contains two large parcel and baggage compartments*

*The tool kit is conveniently arranged in the pocket of the left front door and there is another pocket in the left rear door*



## Massachusetts Dealer Gets Cars Anyway

**S**ELLING motor cars solely is not the single purpose to which men engaged in that business should give all their time if they wish to be successful. Here is an apt illustration of methods by one dealer, which makes him a conspicuous success. When C. S. Henshaw, who handles Dodge cars in Eastern Massachusetts, found that the factory was not supplying enough cars for his customers, and that he could not hope to get enough new ones he felt that he owed it to prospective buyers of cars to serve them.

Instead of having his salesmen meet people coming in, and with doleful looks and phrases of sorrow tell them to turn elsewhere, he sent three of his best men out through New England interviewing owners here and there who might possibly want to sell their cars; putting advertisements in the papers; following up advertisements of those wanting to sell. In other words, he went out to try to get what his customers sought. It was ser-

vice of another sort, but the right kind, and it is bringing him in contact with buyers who will look to him in future to get what they want.

On top of that when he found that an unscrupulous man had swindled one of his salesmen and secured two Dodge sedans he was not content to accept the insurance money to pay for the cars. He set out to trace the thief, managed to get his cars back, refunded the money to the insurance company, and had the innocent buyers get their money back although it took several days out of his busy work hours. It cost him some money, and he will not rest secure until he has put the swindler in jail.

## More Money for Cleveland Tractor

**CLEVELAND**, June 24—The Cleveland Tractor Co. has increased its capitalization \$1,980,000. The company has declared a stock dividend of 10 per cent; also an initial quarterly cash dividend of 1½ per cent for the quarter beginning July 1, 1919, thus placing the Cleveland stock, which is all of the common class, on a 6 per cent basis.

## Army Trucks and Tractors for Road Work

**WASHINGTON**, June 20—Of 28,000 motor vehicles to be turned over to the Bureau of Public Roads by the War Department, 22,000 will be trucks. Eight thousand of the latter already have been delivered to the bureau and forwarded to the states, which will use them in road construction. In addition, 600 army tractors, of which 317 are of the 20-ton and 53 of the 15-ton Holt caterpillar type are ready for distribution, and several hundred will be added to this quota.

Because it is feared protests from states which have not received any of the vehicles might prompt Congressional action to an extent to interfere with highway work and also because it has not yet received a complete inventory from the War Department, the bureau has declined to make public the apportionment of vehicles to the several commonwealths, which will be based on the states' proportionate contributions this year to Federal road aid.



# Once Again— “The One-Legged Business”

*Reilly Points to the Weakness of  
a Business Institution That De-  
pends Upon One Department—  
and Only One*

BY RAY W. SHERMAN

**H**ENRY BENNETT, Redman dealer in Callawassa, walked out to the front door and stood with his hands on his hips, his elbows akimbo and his eyes roving up and down the street, like a saloonkeeper who has just got the place mopped out and wonders when the first customer will show up.

Henry stood thus for some time. He couldn't figure what else to do. For several days he had been worrying about several things, and chief among them was a fat bunch of orders on a spindle in his private office and a sheaf of letters in a folder wherein the factory sales manager diplomatically explained why there wouldn't be very many Redman cars wandering down Henry's way for three months—and three months, Henry knew, meant five or six months.

On paper, Henry was making money. He had sold a lot of cars. Each car meant a fair net, but to get the net he had to deliver the cars, and he had no cars to deliver and couldn't get any. So he had left his desk for the more cheerful outlook of Linden Avenue, the Motor Row.

From afar Henry's striped silk shirt was as visible as an Arabian tent—because it was patterned on about the same plan. Reilly, who distributed the Sennett in and about Callawassa, saw the shirt from three blocks down the street, and, because Henry seemed so motionless and pensive, stopped to look at the shirt.

“Pensive is right!” said Henry, not at all cheerfully. “What I want to know is what we birds on the Row are going to do. Great flocks of orders—which ought to make us some money this year—and not a darned thing to sell.”

“It is tough, isn't it?”

“Tough's no name for it. I thought if we ever could get this darned war over and get back to business we could make some money for a change, but we're back to business and I'm losing more money to-day than I lost any one day last year.”

“When are you going to get cars?” asked Reilly.

“The sales manager says three months. That means about Christmas!”

“Getting any trucks?”

“Aw—I gave that thing up two weeks ago. Company's got a new dealer now—or thinks it has.”

“I thought you were going to get some volume out of that truck this year,” said Reilly.

“I did have that idea, but then—I gave it up. It was too much effort. The passenger car men couldn't sell the trucks. It meant establishing a separate department and working a separate prospect list and all that sort of thing, and I figured I could make more money by going back to my old love, the passenger car, and cleaning up a bunch of business in short order. I was right, too, and I'd be in fine shape to-day—but I haven't anything to sell.”

## A Problem All Must Solve

“Guess most of us are pretty much in the same boat,” was Reilly's comment. “How's the used car department?”

“Used car department!” Henry fairly yelled. “How can there be a used car department when we haven't any new cars to make trades on?”

“Haden't thought of that,” lied Reilly.

“About time you did, then.”

“Selling any equipment and supplies?” asked Reilly, a bit timorously.

“No,” explained Henry; “I can't see much in that stuff. It's all small time stuff, small sales, small profits and just a mess of detail. Doesn't seem worth bothering with.”

“About the only thing you seem to have left is the shop—”

“And that's a liability,” Henry concluded.

“Gee! You are in tough shape!”

“You said it!” Henry agreed. “And it's getting tougher every minute. This morning it's so tough it hurts.”

“Well—” and here Reilly took charge of the conversational situation with

firmness; “it all goes back, Henry, to what I told you a long, long time ago, that the man who depends on nothing except the sale of a single product for the support of his business is running a one-legged business. If somebody kicks the one leg out there is absolutely nothing left to stand on.”

“I tried to tell you about this a long time ago, and you did make a sort of start in the right direction. You started to make your shop pay, you did order a show case built in the service station, you looked with interest on the used car business and you actually took the agency for a truck. But as soon as you thought you were not going to need these other legs under your business you kicked them all out and got back to your one-legged passenger car business. And then you found the one leg wasn't as strong as you had anticipated—and here you are. It's your own fault.”

“Long ago I could see that the time might come when there would be car shortages. We had them recently because of the war and even before the war we used to have them every summer. We have all lost thousands of dollars because, for one reason or another, we couldn't get cars. Why can't we learn by experience, Henry? If the thing has happened once can't it happen again? And if an emergency proved our condition unsound isn't it safe to assume that we are unsound when there is no emergency? A sound business is one that is **READY** for an emergency.”

“All during these weeks that you have been letting your overhead pile up on you and write red, I have been making a profit—not a big one, but some—on trucks, automotive equipment, the shop and buying and selling used cars. To be sure it required an effort. There were departments that had to be newly established and built up, so why shouldn't it be hard work? But they're running smoothly now and making money.”

“The trucks are coming nicely. I have a man who watches the sale of equipment and supplies, and who pushes things. We put the shop on a flat rate basis and it's paying every step of the way, and I've got a used car man who is having the time of his life buying and selling used cars—**AT A PROFIT**.”

“Furthermore, Henry, I'm going to have more than one car in my line. The Sennett is a big seller, popular the world over, but if I can't get any what good is a reputation? Also, I'm going to get the agency for another car in a different price class, one that sells for eight or ten hundred dollars more and that isn't as popular as the Sennett. That means, as I figure it, that this other car will be easier to get and that I can get 'em when I may not be able to get Sennetts. Also, I've got a couple of other schemes under my hat, and I'm just foolish enough to think I'm manager enough to string several of these departments together and make 'em all pay. Which ever way it goes, I'm going to have a business with more than one leg under it.”



A Department of

# BETTER MECHANICS

No. 108

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Modern Methods in Ford Service

This is the fourth of a series of Better Mechanics articles on the best methods of Ford repairing. The first installment appeared in the June 4 issue. Future installments will deal with operations on other parts of the car.

By J. Howard Pile

### PART I—THE POWER PLANT (Continued)

#### 10—Burning in the Bearings

**T**HE operation of burning in the bearings on the Ford consists essentially in setting up the caps very tight and running the shaft in the bearings without oil or lubricant of any kind. After running this way for a few minutes, the friction of the shaft against the bearing melts the skin of the babbitt next to the shaft and the babbitt forms itself into a perfect fit around the shaft without further manipulation. Here is a comparison of the time and money expended in fitting bearings by burning them in and scraping them in by hand.

#### This Week

*Burning-in the bearings  
Set-up of the machine  
Connecting-rod bearings*

#### Burning-in:

Time (including fitting caps, putting on machine, taking off, putting in piston, etc.) .....1½ hr.  
Bearing surface secured .....90-95%

#### Hand scraping:

Time (including fitting caps, putting in pistons, etc.) .....7-10 hr.  
Bearing surface secured .....40-60%

Almost twice as good a job is produced at a saving of from 5 to 8 hr. on each job and a saving in money of from \$3 to \$6 in operator's time.

The main and connecting-rod bearings are burned in separately and in order that there shall be no delay at the machine, the pistons, connecting rods, rings and piston pins should first have been overhauled in accordance with instructions given in previous chapters of this article, so that they are ready to be assembled into the cylinders as soon as the main bearings have been burned-in. It is not necessary to take the bearing caps off after the bearings are burned-in, consequently this much of the assembly is complete.

There are two types of burning-in machines made at present, one of these being so designed that the cylinder block is held right side up and the other holding the block up side down. There is no special advantage in either design over the other, except that where the block is held up side down, the bearings, caps and shaft are in plain sight and the progress of the operation can be watched with more facility.

#### Set-Up of the Machine

It is desirable that the burning-in machine be set up on as firm a foundation as possible. Lag screws of sufficient

#### What Has Been Covered

System in handling Ford service  
Labor operations covering repair work

Segregation of work  
Arrangement of departments  
Disposition of old material

#### I—The power plant

- 1—Removing the engine from the car.
- 2—Taking down the engine.
- 3—Testing and straightening the crankshaft.
- 4—Rebabbitting the cylinder block.
- 5—Reboring the cylinders.
- 6—Fitting new pistons.
- 7—Fitting the piston pin.
- 8—Aligning the connecting rod.
- 9—Fitting the rings to the pistons.

#### Next Week

Testing and overhauling the magneto

#### Future Installments

The ignition system  
The carbureter  
Overhauling the transmission  
Assembly of engine and transmission  
Testing and running-in the engine  
The radiator  
Rear assembly  
Front assembly  
Chassis frame and dash  
Body, top and windshield  
The steering gear





Fig. 37—Both the main bearing and connecting-rod caps are taken down on emery cloth

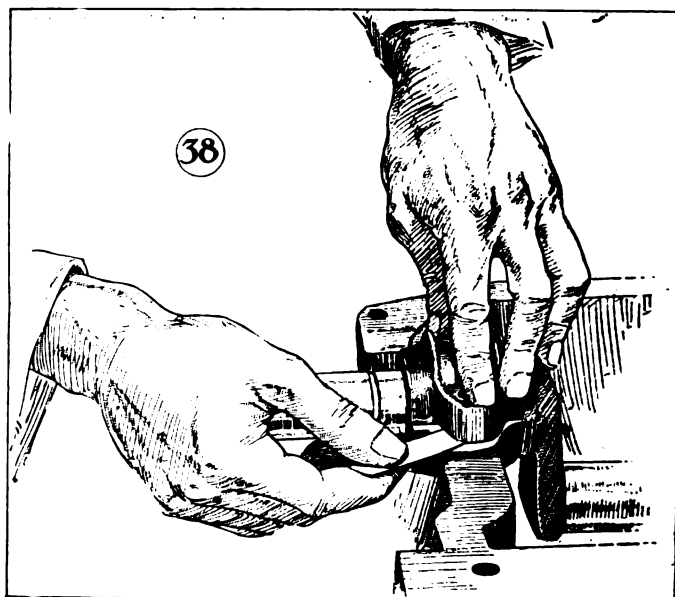


Fig. 38—The rock of the caps should be tested with a feeler gage or piece of shim steel

length to hold it firmly in place must be used but if it is possible to bolt through the floor, this is better still.

The power required to run a burning-in machine is not so great after the first 30 seconds of starting, but the first pull is pretty great and an electric motor of at least 10 hp. is desirable. A smaller motor can be used if it is not considered possible to use the bigger one, but the caps may have to be fitted a little looser, the actual time of the burning-in will be different and it is not possible to get as satisfactory a job.

The proper speed for the machine is 250 r.p.m. This gives the best uniform results. The lowest speed at which it is possible to get any kind of results is 200 r.p.m., and the speed should certainly not exceed 300 r.p.m.

The usual speed of electric motors is between 1200 and 1800 r.p.m., and this will have to be reduced by means of pulleys of different sizes from the shafts.

The best general arrangement if the burning-in machine is the only power-driven unit in the shop is to belt the

motor to an overhead shaft and then belt from this shaft to the burning-in machine. If other power machines are already in operation the burning-in machine may be driven from an additional pulley on this shaft. The usual speed of line shafts is about 300 r.p.m.

To calculate the correct diameter of pulleys to produce certain speeds multiply the diameter of the driving pulley by the speed of that pulley then divide by the speed of the driven pulleys the answer being the correct diameter for the driven pulley. For example:

Electric motor pulley 10 in. diameter, speed 1200 r.p.m.

Required to belt this to a line shaft to give 300 r.p.m. and then to a burning-in machine with 18 in. pulley the speed to be 250 r.p.m.

Multiply the diameter of the electric motor pulley (10 in.) by the speed (1200 r.p.m.), which gives 12,000. Divide this by the speed that the line shaft is to run (300 r.p.m.), gives us 40, which is the diameter the pulley on the line shaft should be.

Another belt goes from the line shaft

to the burning-in machine from another pulley. Multiplying the diameter of the machine pulley (18 in.) by the speed it is designed to run (250 r.p.m.), gives us 4500, which divided by the speed of the line shaft (300 r.p.m.), gives an answer of 15, which is the proper diameter of the line shaft pulley.

1—Fit the main bearing caps to the shaft so that when they are held in place with the hand, the ends of the bearing where the bolts go through the holes will rock slightly. In other words, the bearing must be a little too tight to set down tight by hand against the liners. If the adjustment cannot be made very exact by shifting the liners around, then the bearing cap should be taken down a little until the proper "rock" to the cap is obtained. The proper rock is between .004 and .006 in. The paper that this is printed on is .0025 in. thick by micrometer measurement, so the rock should be about twice the thickness of the paper. A feeler gage can be purchased the correct thickness or can be made up out of shim stock. The method of testing the rock is shown in Fig. 38.

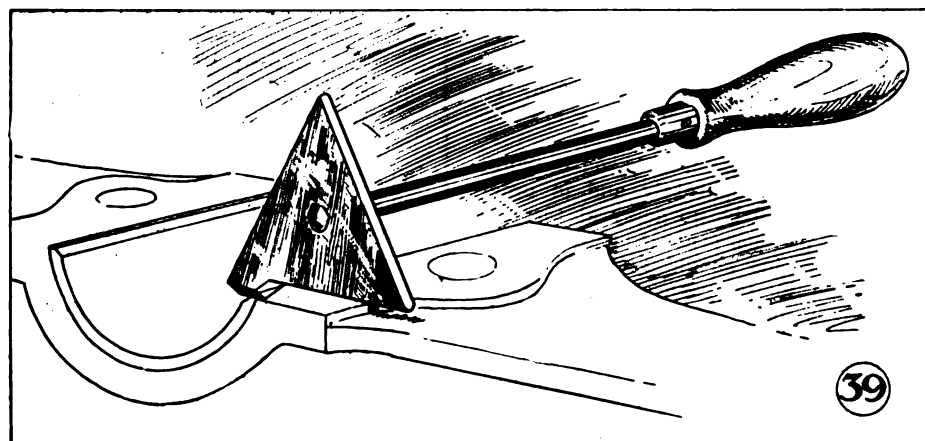


Fig. 39—Time can be saved in beveling the babbitt by making a special scraper which cuts the edges down very quickly

#### PULLEY SPEEDS

Before designing your shafting get out your Motor World, issue of April 23, 1919, and read over the Better Mechanics Article on belting and pulleys, which tells you all about these things. It will tell you the size of belts to carry different loads and formulæ for calculating speeds and diameters.



A rock of .0025 in. on each side would give a rock of .005 in. on one side when the other side is held down to the block.

2—When taking down bearing caps, they should not be filed as it is a very pretty job to file the caps so that they are not skewed or twisted. A much more accurate method is to take them down on a sheet of emery cloth tacked down to a flat board or over a sheet of glass. By using the method shown in Fig. 37, the caps can be taken down evenly and the faces will be true and flat. If much is to be taken off, a coarse grade may be used to get quicker action. Another plan is to get an emery or corborundum block and use it in the same way as the emery cloth. The block must be trued up occasionally, however, to insure its remaining flat, as otherwise a true surface on the bearing cap would be impossible.

3—Remove all traces of emery or grinding compound by washing thoroughly in gasoline.

4—The babbitt in the blocks must be beveled off to allow for the surplus metal which is burned off in the burning-in process. This can be taken out with a file or a special scraper may be made on the plan shown in Fig. 39. This is simply an ordinary painter's scraper with part of one side ground off and a cutting edge formed on the 45 deg. angle formed between the two parts of the blade. The caps do not need to be beveled out as they already have a little clearance in the babbitt.

5—Place the block in position on the machine, engaging the lugs of the driving head in the holes in the flywheel flange. The details of the parts are shown in Fig. 42.

6—Clamp the block firmly to the bed with the clamps which will be either on top of the block or at the sides.

7—There is a hand wheel between the clutch of the machine and the block and it should not be possible to turn this by hand if the proper amount of rock has been given to the caps.

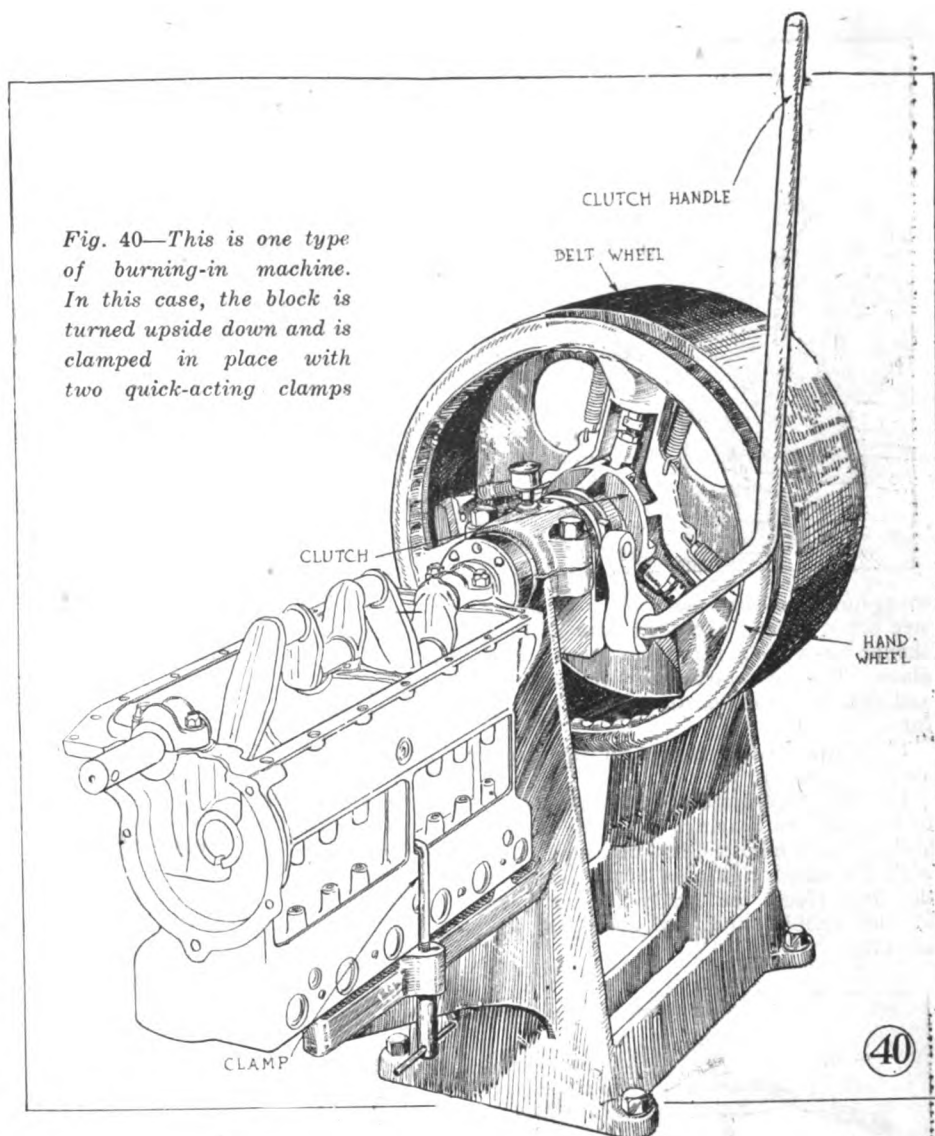


Fig. 40—This is one type of burning-in machine. In this case, the block is turned upside down and is clamped in place with two quick-acting clamps

8—Throw in the clutch slowly. If the bearings are so tight that the belt slips or the motor slows down, slip the clutch in and out two or three times till things

loosen up so that the machinery will take the load.

9—Have a watch or clock handy and time the running of the machine for the time that the clutch is in. After the machine has run about 30 seconds, feel the three bearing caps with the finger, being careful not to get mixed up with the revolving cranks. The caps should be smoking hot by this time and should not bear the touch of the bare skin. If one or two or even all three of the caps show a disposition not to heat up, the caps have not been fitted properly and the clutch should be thrown out immediately.

10—A cool cap is a sure indication that there has not been enough rock to the cap, and this may have been brought about by some nick or obstruction on the babbitt which stuck up above the rest of the surface and gave the cap a raise from the shaft. Then when the bolts were set down, the protruding lump was pressed into the rest of the babbitt and the bearing cap has a nice loose fit which makes it absolutely impossible to burn it in. The cool caps must be caught immediately, as otherwise the whole burning-in operation will have to be done over again.

11—Remove the cool caps and take

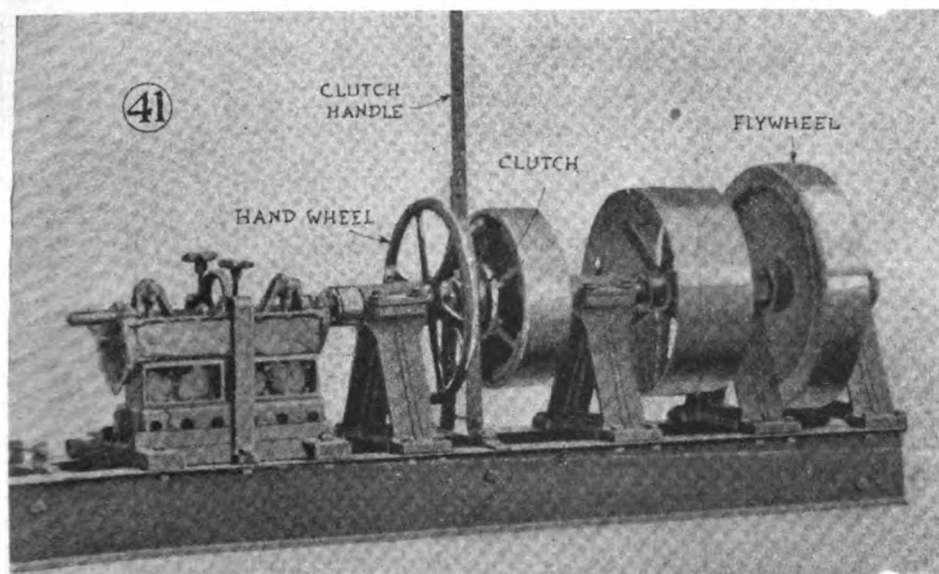


Fig. 41—This is another type burning-in machine. A flywheel is added to the shaft and it differs in some other respects from the one shown in Fig. 40, but the principle remains the same



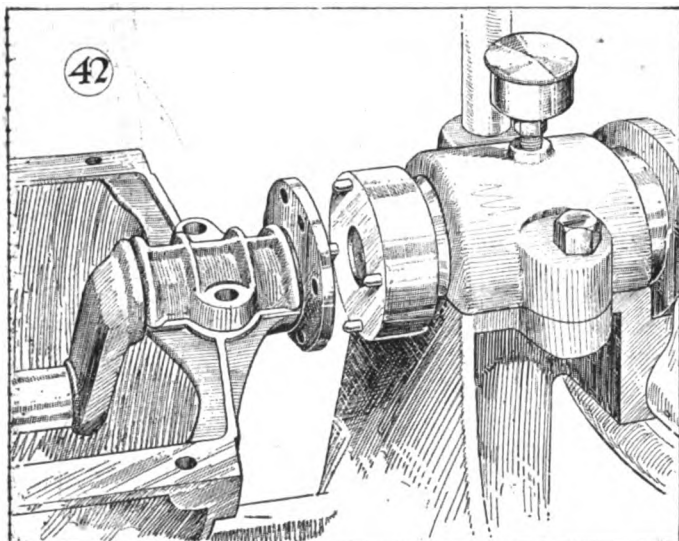


Fig. 42—Details of the driving head of the burning-in machine. The lugs engage the holes in the flywheel flange

them down on the emery cloth or abrasive stone exactly the same way as they should have been fitted up in the first place. The rock should be between .004 and .006 in. No allowance is to be made for heat in this case.

12—Continue the operation the same as when starting the first time.

13—The total time the machine takes to burn in the bearings is in the neighborhood of 2 minutes, but this may vary with the exact tightness of the caps in the first place, the grade and softness of the babbitt and the speed of the machine.

Fig. 44—Two views of the turning bar which is used in turning the crankshaft around when the flywheel is removed

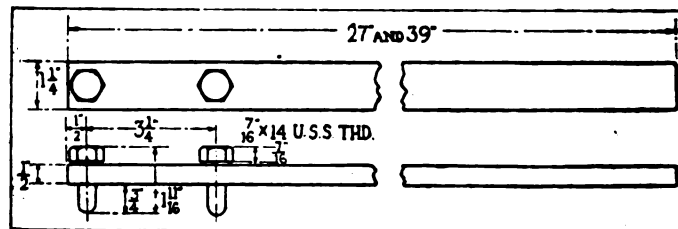
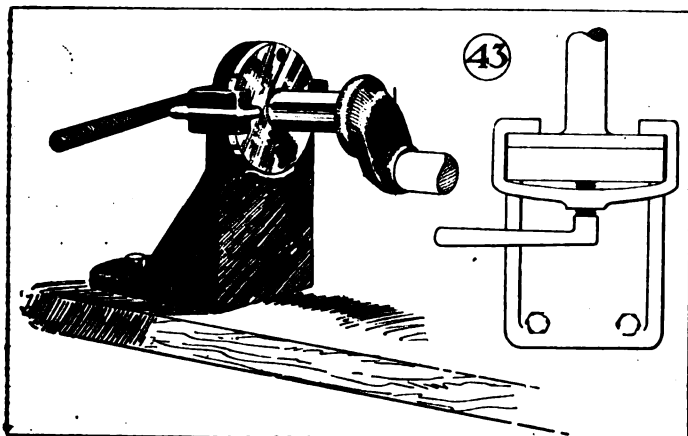


Fig. 43 (left)—This is a clamp for holding the crankshaft while polishing the cranks preparatory to fitting the bearings. It obviates the necessity of using an ordinary vise and makes the shaft rigid and convenient to work on

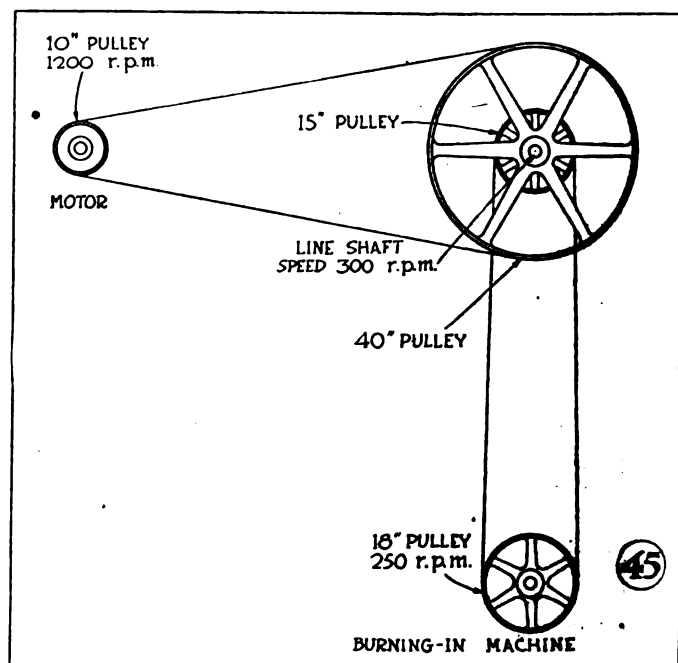
14—It is an excellent plan to throw out the clutch at the end of 1 minute and try the handwheel. If it cannot be turned with one hand, the bearings are not done. Try again at the end of 1 1/2 minutes and frequently thereafter till a point is reached when the handwheel can just be turned with one hand. This is the proper freeness of the bearings at this point. After they are oiled and run in on the stand later, they will loosen up a little more.

#### Connecting-Rod Bearings

15—Apply oil freely to the main bearings so that they will not burn in any more while the connecting-rod bearings burn in. This application of oil will also put a polish on them during the running.

16—Remove the block from the ma-

Fig. 45—Diagram of pulleys and belting to illustrate the example which is worked out in the text



chine and insert the pistons complete with rings and rods. Be sure to get the pistons into the cylinders they have previously been fitted to as shown by the center punch marks. The clamp screws on the upper ends of the connecting rods all go toward the camshaft side of the engine and the bearing caps are then put in place.

17—The same method of taking down the caps or shifting liners to get .004 to .006 in. rock is gone through as was the case in fitting up the main bearings.

18—The caps are taken down the necessary amount on emery cloth or an abrasive block, and it is even more important in the case of the connecting-rod caps to use this method than in the case of the main bearing caps, because the connecting-rod caps are smaller and it is much easier to file them with a twist, giving an unsatisfactory and short lived bearing.

19—Set the nuts up tight as possible.

20—Put the block in the machine, engage the driving head with the flange of the crankshaft and set up the clamps.



21—Try the handwheel as a check. It should not be possible to turn it.

22—Oil the pistons and cylinders and give the main bearings another dose of oil, but do not allow any oil to get on or near the connecting-rod bearings.

23—Throw in the clutch, carrying out the same precautions as in the case of starting to burn-in the main bearings.

#### Attend to Cool Rods Immediately

24—Time the operation as before and throw out the clutch after 30 seconds to see if all the rods are heating up as they should. Any cool rod should be attended to at once, taking down the cap until there is the right amount of rock.

25—Continue the operation of the machine for a minute and try the handwheel. If it will not turn with one hand, continue, trying the tightness at short intervals, till the handwheel can be turned with one hand.

26—When the bearings are done, apply oil and run for a few minutes longer to get a little polish on the bearings.

27—The block is now to be removed from the machine and is ready for assembly as soon as the other components of the power plant have been repaired or overhauled as the case may be.

### A Solution of Pullman Electrical Trouble from Tasmania

Editor Motor World: In your issue of Feb. 12, Messrs. Derry Bros. of Nenzel, Neb., asked for information on the Apeldo generator and starter on the Pullman car, with which they have had trouble.

I had a Pullman car in my garage with exactly (presumably) the same trouble.

On taking the generator out of the car and running it as a generator it worked perfectly; as a motor it did the same, replacing it back in the car it failed to generate. I took it out again and tested it throughout, same result, tested the cut in and cut out, everything O. K.

I took off the + wire of the motor and started up on magneto, leaving only the + dynamo and common — wires connected and the outfit operated perfectly, which proved that the trouble was in the dynamo when the positive of the starting motor was connected up as usual.

In the first place this trouble was caused through running the dynamo with the batteries removed without short-circuiting the dynamo.

However, I overcame the difficulty temporarily by fitting a large switch in the starting circuit so that I could open this switch and prevent all the current which was being generated while the engine was running from flowing directly through this short circuit.

To start up the engine, proceed exactly as usual, and close the switch, which we will call No. 2, press the pedal and immediately the engine starts; switch off No. 2 and the generator operates the cut in and charges the batteries.

Probably I have not made myself clear. This Apeldo machine has three terminals,

## The Next Installment of MODERN METHODS IN FORD SERVICE

Will Appear in Next Week's Issue

**T**HE magneto is one of the parts of the Ford which are not as well understood as they might be. Next week we will tell how to test for open circuits, shorts, weak magnets, poor connections, etc. The complete overhaul and repair of the magneto will be taken up in detail. A discussion of the pros and cons of remagnetizing magnets both in and out of the assembled engine will prove of value, as much discussion is always brought up on this subject at any meeting of Ford repairmen.

□ □ □

**R**EADERS are invited to write us concerning any points that they do not understand. Be sure to give us your name, address and the garage you are connected with.

one marked M+, D+, and —, which I take to be motor positive, dynamo positive and a common negative.

The wire in which I fitted the switch went from the starting pedal directly to the positive terminal on the starting motor and generator.

The owner of this car will not let me have a go at the machine to find out exactly what the trouble is, as he says he is perfectly satisfied to leave everything as it is.

Hoping this will help Brothers Derry to solve their trouble, which I feel sure is the same as I encountered.—G. Charlton Rudge, Latrobe Motor Garage, Latrobe, Tasmania.

#### Duluth Tire Men Organize

DULUTH, June 17—The Twin Port Tire Dealers' Association, including tire men in Superior, Wis., has been formed to give protection against unfair business methods. Sale or repair of tires is a requirement to become a member. Policies of distribution will be regulated, better hours of service established, protection worked out against the game in the mail order house business. Officers are: President, Arthur Miller, East F Tire Shop, Duluth; vice-president, L. Larsen, Broadway Tire Shop, Superior; secretary, J. W. Moss, Northwest Tire Co., Duluth; treasurer, R. E. Harris & Son, Duluth.

## Ten Commandments

1. Thou shalt have no friendship for the "price-cutter."

(He's your enemy.)

2. Thou shalt not make unto thyself any fool notions such as "I'm the big smoke" or "I can do better alone."

(Attend the meetings.)

3. Thou shalt not take the name of thy competitor in vain.

(His word's as good as yours.)

4. Remember on the Sabbath day to keep thy garage open for the jitney traffic.

(You don't need a rest.)

5. Honor thy Association and thy fellow members that thy days may be long in a paying business. (The jobber'll get you if you don't.)

6. Thou shalt not kill the chance of thy Secretary to annex a new member.

(Soft pedal on the jealousy stuff.)

7. Thou shalt not commit any adulteration of the "gas" thou peddlest, nor "stretch" the guarantee on tires.

(Be square with the public.)

8. Thou shalt not steal the benefits of thy Association.

(Pay your dues.)

9. Thou shalt not tell lies of thy competitor such as "He giveth discounts," or tattle gossip to damage his business.

(Leave that to the public.)

10. Thou shalt not covet thy neighbor's business nor his reputation nor his ability to "get there." Thou shalt not be ever on the watch for fear that he "will put something over on thee."

(Mind your own business, and boost.)

By A. V. Storer, Citrus Belt Auto Trades Association, Pomona, Cal.



# THE LAW

By George F. Kaiser

## Perplexed?

*Does some point of law perplex you? Why don't you ask Motor World's legal editor to discuss the question? In writing give complete facts, copies of contracts, papers, etc. Be sure to tell us whether you maintain a permanent file of Motor World, as inquires can frequently be answered by reference to previous issues.*

## On Writing the Right Letter

Editor Motor World: We have overhauled a car and have let a customer take it out on trial. He is satisfied with the work done, but does not want to pay, as the bill, he says, is too high. There is nothing overcharged. What is the best way to collect that bill? Can we get the car and hold it? He has the car home and has been using it for the last two months.—The Amsterdam Garage, Manhattan, Mont.

**Answer**—As you allowed the customer to take the car out you lost your right of lien under the Montana law, which provides that "every person while lawfully in possession of an article of personal property rendering service to the owner by labor or skill employed in the making of repairs, protecting, improving, self-keeping or carrying thereof, has a special lien depending on possession for the compensation due."

You undoubtedly have a right to sue for recovery of the amount due you; but if, as you say, the owner is satisfied with the work and only refuses to pay because he thinks the bill is too high I would certainly ask him to stop in and discuss the bill before turning the account over to a collector. Probably you have already written him but have failed to get a reply. If so, in all likelihood it was because you did not write the proper kind of a letter. Remember that some people who owe money are merely neglectful. Others have a grievance, real or fancied, while still others are either financially irresponsible or dead-beats. Examples of the difference in the letters which should be sent to each of these classes follow:

### Letter No. 1—To Neglectful Debtor

DEAR SIR: On going over our accounts we find an item of \$— charged against you which became due July 1. We appreciate the fact that this matter was probably overlooked in the rush of modern business.

If you will let us have your check we shall be glad to close this account, as it will spare us the necessity of troubling you further.

### Letter No. 2—To Debtor with Grievance

DEAR SIR: On going over our books, we find under your account a balance of \$— due since ——. Inasmuch as the work was done long ago, you may now not be familiar with its details. If you have any doubt as to the amount or accuracy of the bill, we will be pleased to get in touch with

you and explain it, because we are making a very earnest effort to do our work right and to make our prices right.

Occasionally a customer does not understand why certain jobs require so much time or why some other item enters into the account. In such a case we gladly go over all these things with him. May we have your check? Or if the account seems like ancient history, call in person.

### Letter No. 3—To Debtor of Little Means

MY DEAR MR. JONES: Mr. Smith, our bookkeeper, has called my attention to the fact that he has sent you several statements relating to the balance of \$— due us since July, but has received no reply.

I am writing you personally because we want to co-operate with you in every way we can, so if you cannot send us a check stop in and let us see if we cannot find some mutually satisfactory way of adjusting this matter.

### Letter No. 4—To the "Beat"

DEAR SIR: We beg to advise you that the balance of \$50 due us on July 1, 1917, is still unpaid.

We intend to collect this account, and if you do not see your way clear to let us have your check immediately, we are prepared to have suit instituted for the full amount of this claim, interest and costs. By sending your check at once you will dispense with this trouble and expense, which, of course, will ultimately be borne by you.

## Right to Store Gasoline on Premises

**A**N interesting case involving the right of a property owner to store gasoline on his premises and bringing up the question of whether or not by merely storing gasoline he became liable for damages caused by it, was recently decided in Iowa.

The court decided that in the absence of proof showing that the method of storing the gasoline was wrongful, and because of such wrongful method of storing, another person's property was damaged by fire, the owner of the damaged property could not recover for his loss on the mere ground that gasoline was kept on the premises. The court said that while it was true that if gasoline is used it must be so handled and stored as not to be exposed to fire, nevertheless unless an act of negligence is shown there is no liability on the part of the person storing it.

The court further said: "If the quantity of gas thus stored in the building had been contained in the tanks of auto-

mobiles, stored in a garage, a like result would have followed the setting of fire to the garage. Could it be said in such a case that the owner of the garage or the owners of the automobiles were liable for the consequential damage because they were responsible for the presence of the gasoline? This fact or the fact that it increased the conflagration would not of itself be sufficient." *Kress vs. Lane Brothers.* 111 N. W. (Iowa) 371.

## Question of Breach of Warranty

**T**HE Court of Civil Appeals of Texas in a recent case came to the sensible conclusion that a guaranty that an automobile would give good service implies that it is to be handled and driven as automobiles ordinarily are. It was further decided that the car must be given the care and supplied with oil, gasoline, etc., as automobiles are usually cared for and supplied with.

In this case a buyer had started suit to recover the purchase price of a car paid by him on a claim of breach of warranty. It appeared that the dealer had warranted it to be "a good automobile," and that "it would give good service."

The dealer claimed that if the car did not give good service, it was because of the buyer's failure to give it the proper care and attention.

The jury found that the buyer had run the car without oil so the court decided he was not entitled to get back the money paid by him. *Conner vs. Schnell.* 210 S. W. (Texas) 753.

## False Statements

**T**HAT false statements of fact made by a seller of a motor truck to a buyer to induce a sale, and relied on by the buyer, are actionable without regard to whether the seller knew them to be false, acted recklessly or intended to deceive, was the holding in a recent Kansas case. It appeared that the buyer had bought the truck after telling the seller that he had a contract to haul coal and that he wanted a truck for that purpose. The buyer did not have time to examine the truck and the seller gave assurances that it would do the work. When the seller brought suit on a note given as part of the purchase price the court declined to direct judgment for him. *Bice vs. Nelson.* 180 Pac. (Kansas) 206.



# SHOOTING TROUBLES

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Electrolyte Strength for Setting Up Batteries

Editor Motor World: In looking over your March 19, 1919, issue I find that under "Shooting Troubles," title "Some Battery Questions," the answer to No. 1 is incorrect. The correct strength of acid for such use is specific gravity 1.275 or 1.300. If 1.200 acid is used it delays the result, and unless there is already acid in the plates would never come up. In a "bone dry" battery, acid of 1.275 to 1.300 should be used. The proportion for mixing acid for this use will of course vary with the original strength of the acid before diluted. There are tables published for this dilution, but they should always be verified by a hydrometer test after the acid is thoroughly mixed. I take great pleasure in giving you this information, for I get one or more hints each week. You have the best trade paper published.—L. R. MacMillan, Wilmington, N. C.

Answer—Opinions seem to differ slightly as to the exact strength of acids to use when placing a battery in commission. The Philadelphia Storage Battery Co. recommends a strength of 1.220 for this purpose, and the cells should stand 12 hours after filling with acid before the charging current is started. The voltage should rise to 2.25 per cell or higher, and the acid should reach 1.280 to 1.300 at normal temperature. Regardless of what strength of acid is used to put the battery into commission, after the battery has been given a complete charge and an overcharge, the electrolyte should be adjusted to between 1.280 and 1.300.

The battery is fully charged only when the voltage and specific gravity do not rise during 12 hours. When this condition exists the battery is fully charged regardless of the specific gravity of the electrolyte, and if this specific gravity is low it should be brought up and if it is too high it should be brought down by the addition of distilled water.

Other authorities recommend a gravity of 1.360, charging and discharging the battery and then charging again, making two complete cycles, the electrolyte afterwards to be balanced to 1.280.

## Evidence of Carbon in Buick

Editor Motor World: 1—What grade of oil would be best in the engine of a Buick D-45?

2—I have a light knock in the engine some place, and when pulling hard on high it knocks with a sort of a clicking knock, but when I retard the spark it won't knock any more than when the engine is idling.

3—How often should I put distilled water in the storage battery?

Answer—1. The oil recommended for use in the Buick engine is a high-grade medium heavy mineral oil with a flash point of not less than 400 deg. Fahrenheit, and a viscosity of 80 to 90 Tagliabue or 62 to 72 Saybolt, at 212 deg. Fahrenheit. This oil should be used exclusively in the engine lubricating system, for the pump shaft bearing, and for all small parts not otherwise provided with lubrication, such as rocker arm, ball joints, clutch release yoke, spark and throttle cross-shafts, small joints, throttle and accelerator connections, etc.

2. The knock in your engine is undoubtedly due to an accumulation of carbon in the cylinders. Carbon almost always makes itself evident when the engine is pulling hard, as when the car is climbing a hill. At such time a clinking noise will be heard, which sounds very much like a light knock, but is not heavy like a bearing knock. When the spark is retarded a little, this clinking noise will generally disappear. The heavier the accumulation of carbon, the more the spark will have to be retarded to prevent the carbon knock. The remedy for this, of course, is to have the carbon cleaned out by one of the various methods which are generally employed.

3. The frequency with which distilled water is to be put in the storage battery will depend very largely upon how much the car is used, and upon the season of the year. Water evaporates faster in summer than in winter, and replacement will therefore be necessary more often during the hot summer months. While

the car is being used, and the battery is being charged, there is a certain amount of heat going through the battery, and this will heat the battery up and cause more rapid evaporation. The best way to find out how often the battery needs replenishing is to examine it once a week, and see how much it is necessary to add to bring the level of the electrolyte up to a point just below the filler cap. It may be that replenishing will be necessary once a week, or it may be that it can be allowed to go for two weeks without replenishing.—Editor.

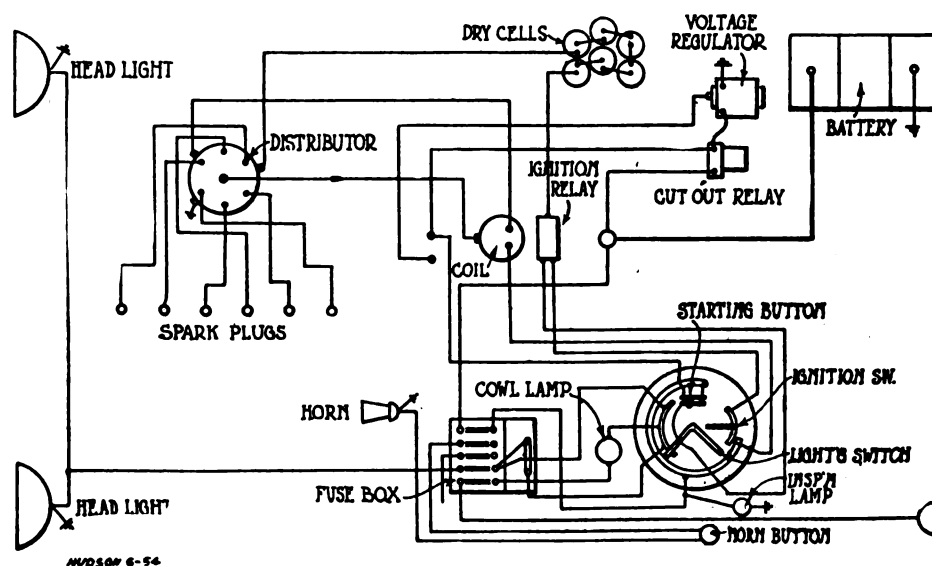
## Wiring of the Hudson 6-54

Editor Motor World: I would like to have you send me a wiring diagram of the Delco starting and lighting system on a 1914 Hudson motor car, the large type 6-cylinder model of that year.—Peter F. Martin, Glendale, L. I., N. Y.

Answer—The model to which you refer is no doubt the model 6-54, which was the big 6-cylinder model made in 1914 by the Hudson Motor Car Co. The wiring diagram is shown on this page.

## Auto School Growing

DETROIT, June 20—The Michigan State Auto School is feeling the general increased interest in automobiles and the automobile business, by a very marked increase in enrollments. Matriculations have been at the rate of fifty a week all spring, and the summer class is expected to comprise 800 pupils, the approximate size of the winter attendance.



Wiring diagram of the Hudson 6-54



# Repairshop Shortcuts

*From Motor World Mechanics*

## No. 2179—HYDROMETER SYRINGE HOLDER

A convenient and safe place to keep the hydrometer syringe in the shop is in the wooden case in which it is shipped. This case is fastened up to the wall or some other handy place with two tin strips which surround the case. Screws or tacks hold the tin strips to the wall.—Wayne Stettbacher, Alhambra, Ill.

## No. 2180—SAVING FLOOR SPACE

In laying out a garage floor plan, space may sometimes be saved by placing one or more of the work benches in between pillars. This space is nearly always wasted because cars cannot get in between anyway. If the top of the bench is cut off at the corners and the ends go right out to the posts, this will not only steady the bench but will prevent cars bumping squarely into the end of the bench. In other words the blow would be a glancing one and would not do much harm to either vehicle or bench.—Commercial Vehicle.

## No. 2181—BEARING SWAGING TOOL

Where only a slight amount of end play is present in the crankshaft and otherwise the bearings are in good shape, the end of the bearing can be swaged out longer with a tool forged into the shape shown in the illustration. This will lengthen the babbitt a little and it can then be scraped to fit the shaft endwise. The tool should be forged from steel and may be hardened and tempered to make it durable.—Roy C. Rognon, New York City.

## No. 2182—UNBREAKABLE TEST LAMP

By placing the test lamp in a tin can about the size and shape of a tube-patch can, it will be far less liable to breakage than the ordinary naked lamp. A hole is punched in the can and two wires 5 ft. long attached to the lamp socket and drawn through the hole. Sealing compound is then poured in around the assembly to hold socket and wires in place. Two nails are soldered to the loose ends of the wires and a bulb inserted in the socket. This completes the test lamp and the nails are used for testing for open circuits or grounds.—C. O. Scott, Storage Battery Service Station, Arkansas City, Kan.

## No. 2183—PISTON PIN PRESS

A press for pushing out piston pins is made from an old book press or copying press. The top leaf is removed and a

## Make a Dollar

*HOW often have you been compelled to rack your brain to overcome some difficulty? But when you did find a solution—what satisfaction it was! Well, here's a chance for you to dig some of those life-savers out of their hiding places and put them to work for your fellow-craftsmen. Send them to Motor World. We will pay you a dollar for every one accepted for publication.*

*The only requirements are these:*

*1—Describe the shortcut briefly but clearly, in few words.*

*2—Send a sketch, in pencil or pen, no matter how rough; our artists will finish the job.*

*3—Write on ONE side of the paper only.*

*4—Sign your name and initials, the name of the company you are with, and the town.*

*Write plainly. If your name is unusual, print it in capital letters.*

pair of blocks cut from thick boards hollowed out to hold the piston while the screw pushes the piston pin out with a punch. This punch is made of cold rolled steel of a diameter slightly less than the piston pin. One end is turned down, for a distance of about 1 in. to the inside diameter of the piston pin. Placing the piston horizontally on the boards with the piston pin vertical and coming exactly over the space between the boards, the punch is placed on top and the screw turned down.—Roy C. Rognon, New York.

## No. 2184—FITTING BEARING CAPS

Bearing caps are fitted better by grinding them down on a flat surface than by filing them in a vise. A handy and inexpensive surface plate for this purpose is made from a thin piece of glass about 1 ft. square. This is laid on a piece of wood and is prevented from sliding about by tacking strips of wood around the edges. The strips should be about half as thick as the glass. A piece of emery cloth is clamped down on the glass, rough side up. The clamps are made from strap iron 1 x 1/2 x 14 in. with pieces of leather riveted to one side. Holes

are bored in the ends of the strips for 3/8 in. bolts and corresponding holes are bored in the wood base and in the work bench. The clamps, glass and emery cloth are then all clamped firmly together with wing nuts and the emery cloth can be quickly renewed at any time.—Roy C. Rognon, New York City.

## No. 2185—FITTING MAIN BEARINGS

In fitting the main bearings to the crankshaft, the crankcase halves of the bearings are fitted first without the caps in place. At times the babbitt has a tendency to rise in the case and when the bearing is scraped to the shaft and later pushed down with the cap, the bearing will be slightly out of line. This is obviated by clamping the babbitt liners firmly in the case with small pieces of pipe with lugs formed on one end as shown in the illustration. These are tightened down with the bearing cap nuts.—Roy C. Rognon, New York City.

## No. 2186—BEARING CLAMP

After fitting the babbitt lining to the cap, connecting rod or engine crankcase it should be clamped down before it is filed even with the container. If it is merely hammered in place and filed, then when the bearings are set up there is a space between the ends due to the spring of the metal. A clamp for the purpose is made from a piece of wood turned up to the diameter of the shaft that runs in the bearing. This is sawed in two lengthwise. A strip of iron is screwed on the flat part and two holes bored through the wood and the iron strip. Clamps formed of rod are bent to a shape to hook under the rod, cap or crankcase and the long legs are threaded for the wing nut. The file can then pass between the wing nuts and over the iron strip.—Roy C. Rognon, New York City.

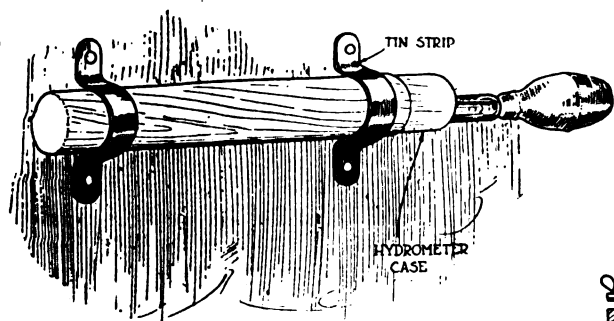
## No. 2187—BATTERY CONNECTOR

A battery connector for use in charging batteries when the terminals have been removed or for rapid connection to regular terminals consists simply of a heavy steel wire coil spring. This has large hooks formed in each end and these hooks are slipped over the battery posts. The tension of the spring makes the contact.—W. A. Rotmer, Creighton, Neb.

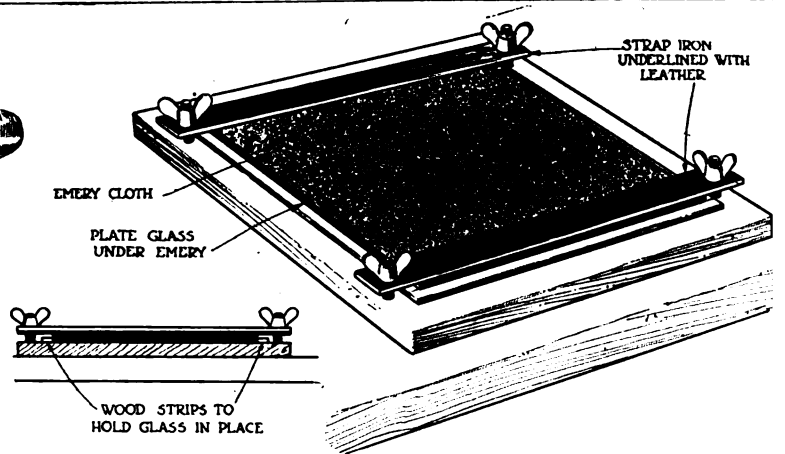
## New Fordson Price

DES MOINES, IA., June 20—The Herring Motor Co., Fordson distributor for Iowa, South Dakota and Nebraska, has announced a new price—\$750 f.o.b. Dearborn—on Fordsons.

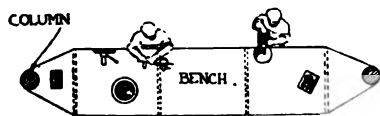
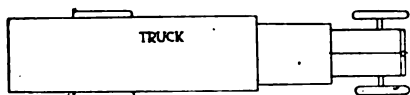




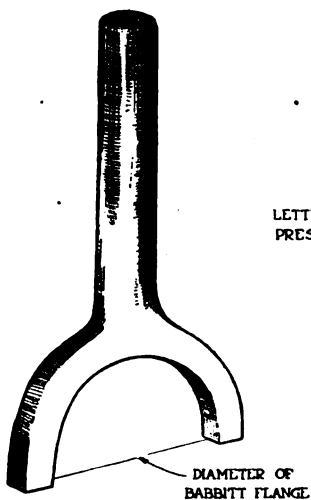
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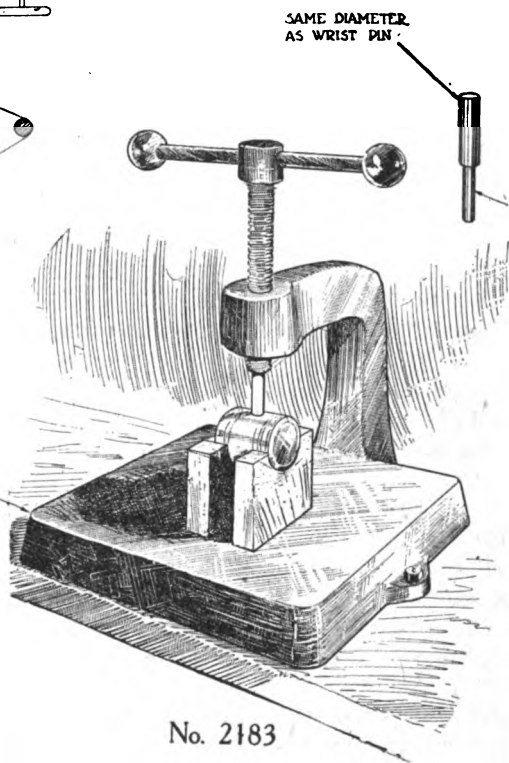
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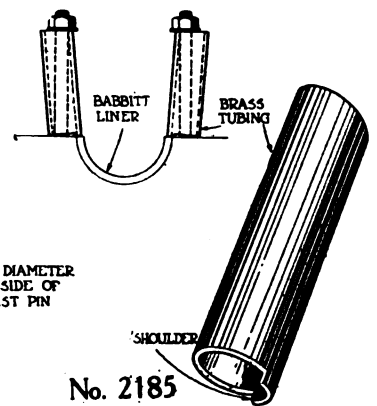
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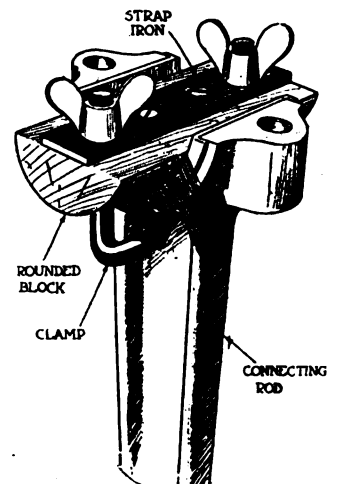
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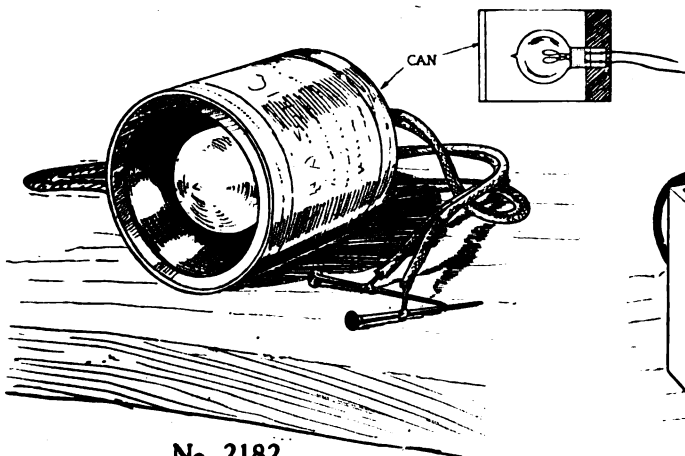
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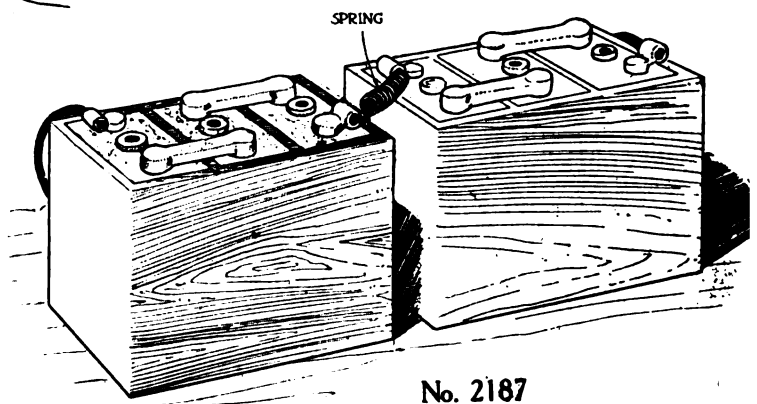
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No. 2187



# Editorial Observation

## Build Now

**I**F you have been contemplating a new building and have been delaying because of the high price of everything from labor to steel you would do well to analyze the situation carefully and ascertain whether the time to build is not NOW.

The best judgment of economists is that there is not going to be any great decline in the price of those things which go to make up a building, and, don't forget, much of your building will be made up of labor.

It seems that business men never get together these days that they don't, sooner or later, get around to a discussion of labor. No matter where they start they wind up on the subject of labor, and the conclusion generally is that there isn't going to be any great decline in labor's price for a long time—maybe never.

And neither can materials fall greatly until labor comes down. Wherefore, there doesn't seem to be much chance of the materials for building coming down to any great extent.

Even if there were some decline in the cost, it might be more than compensated for by the use of the building during what might otherwise have been a period of waiting. A new building generally means better business and more of it, and the longer building is delayed the greater is the business loss from this cause.

One other factor entering into the matter is the price of real estate. It has not yet gone up proportionately as have other things, and, unless there is a general decline, it is obvious that real estate, together with every other commodity that hasn't soared, must approach the higher level.

Real estate to-day is on a rising market. It prob-

ably will keep rising until it gets top-heavy and then will suffer a decline, depending in degree on the extent of the top-heaviness. The wrong time to buy real estate is at the top of the wave. The time to buy is now or after the peak seems to have been passed. Inasmuch as no one can safely predict when the peak will come, early buying seems advisable if there is any real need for new sites.

With the soaring of real estate, if it comes, there will also be a rise in rentals, and the man who makes a rental contract during the next few years should protect himself by a short-term lease or a clause which will permit him to get from under in case rentals decline. Probably a short lease would be best.

On the other hand, if you are a property owner, a lease made during the rising rental period and for a long term may prove a fine piece of business. In fact, one financial authority advises landlords to get long leases at high rentals so that revenue may be assured when real estate and rentals begin their possible decline after the peak period.

All things considered, there seems no reason why the dealer who wishes to build should hold off. He will have to hold off a long time to find out just what is going to happen, and his holding off may be more than offset by the non-use of the building while he is waiting. And, even when he does find out what is going to happen, he probably will find only that things haven't changed greatly and that he might just as well have built long ago.

These are times when courage and initiative are required. If you want a new building **BUILD IT NOW**. And then go ahead and make more money than ever before. If you do that you can't lose.

## The Often Penny

**O**N the 19th day of May, 1915, there was running in Motor World a campaign which was known as "Dirt vs. \$'s." It urged cleaner garages, shops and salesrooms and greater attention to the sale of accessories. In this May 19 issue of four years ago the story was about "The often penny and the seldom dollar," and it showed how big money can be made from small sales while the man who waits for big sales only passes up opportunity.

Since that day progress has been made. The trade is cleaner, better and more businesslike. Motor World at that time said that the unfit would be weeded out—and many have gone. To-day there is more than ever a tendency toward Greater Profits through Better Business, and what we want to bring out is that there are a great many opportunities for small

profits, all of which will make big profits if advantage is taken.

For instance: For years we have had "free air." Yet air can be sold. It costs money to make it, so why not **SELL** it? Garages and service stations can get coin-in-the-slot machines which any desirable customer is glad to patronize.

And sell water. Why not? It is **WORK** to fill a radiator, and somebody has to pay for the work.

And distilled water! How many garages sell it? In fact, how many have it at all? Yet customers pay money for it in drug stores—and are glad to get it.

All these countless little revenue collectors make big profits. And, more important yet, they check the leaks that take the profits of the bigger departments.

While getting the seldom dollar get the often penny too.



# LETTERS *from* READERS

*When asking for information, please state whether you maintain a permanent file of Motor World, as many inquiries are answered by reference to previous issues*

## Take Part in Civic Work

Editor Motor World: A. H. Price, vice-president in charge of sales of the Pennsylvania Rubber Co., gives the following statement as president of the Chamber of Commerce, showing what Jeannette has done with the funds that were in the war chest after all contributions had been made:

The Jeannette War Service Union has decided upon a program for disposing of its popular funds in excess of what was needed for war work that has the merit of practicality. The small town frequently hits upon plans that look almost like a rebuke to the pretensions of the big towns and great cities, and Jeannette in this instance seems to be one of those small towns. The organization found itself the possessor of \$15,000 at the close of the war work and all necessity for service expenditures, and the Chamber of Commerce had a surplus of \$10,000. The enterprising community spirit which had made large funds possible in a small town is still fully alive and alert enough to take up immediate discussion of the best use to make of the surplus. It was decided to build a municipal building and community house in combination, which should be town club in which every resident of Jeannette is to be considered a member.

The proposed community house is to contain a spacious auditorium, reading rooms, large and completely equipped gymnasium and a modern swimming pool, maintenance of which will be provided for through nominal dues. The patriotic citizens are as prompt in following their successes in war work as they were energetic in service to the men in khaki. Jeannette was the second

## PEP

*Here are some letters from associations and concerns that have pep. Let's hear what your organization has done to liven things up.*

town to adopt a uniform plan of home service and made a record for efficiency in this respect which attracted national attention. The quick application of their surplus funds to the erection of a community house clubhouse also will attract national attention as a sensible way to finish a good job—by doing another. While most towns and cities are still talking Jeannette is doing, and doing it well.

The Pennsylvania Rubber Co., during the entire period of the war, stood first as regards Jeannette contributions. Mr. Seneca G. Lewis, vice-president-general manager, was president of the Jeannette War Service Union.—Pennsylvania Rubber Co., L. P. Stephenson, Advertising Department, Jeannette, Pa.

## Putting Pep Into the Trade

Editor Motor World: In response to your request for an article from our association I will submit the following:

Our association has a membership of 55. We are a live organization, and are doing very much toward bettering conditions in the different lines connected with the automobile business.

Our regular meetings are well at-

tended, and our programs are quite instructive.

We are planning for a banquet at our principal hotel within a short time, at which not only the members will sit at the table, but each member will bring his foreman as his guest. Then a little later, within the next month, a general picnic is being planned. We will go to one of the finest parks in Southern California, and every employee will go. The places of business will be closed for the day.

Our boys are also planning to put on a campaign for a Business Men's Club here soon. The city is sorely in need of quarters and they are the only bunch that has the "pep" to go after it. All told, the Automobile Association is the liveliest organization in the city.—L. P. Steepleton, secretary, Harbor Cities Automobile Trade Association, Long Beach, Cal.

## Attaboy!

Editor Motor World: We are enclosing you our first catalogue. This we had printed right here in Lamar, a city of 5000.

We mailed out 1500 to the automobile trade and the results are fine.

You have printed several of our ads. This is the first attempt the writer has ever heard of a small retail store in a small city trying to buck the mail order houses and we are trying it with STANDARD MERCHANDISE AT STANDARD PRICES AND ADVERTISED PRODUCTS.

And when you will glance through you will find that our prices are the same as the big mail order houses where



*Here are some of the dealers who sell Delco-Light for the Electric Farm Lighting Co., in the Des Moines territory. The picture was taken at the time of the sales convention in May*



they are allowed to sell standard merchandise.

Look through this; you will not find any "gyp" casings, "gyp" spark plugs or second tubes.

We enjoy every copy of the Motor World and only wish that every number was as large as the Spring and Fall.—The Lamar Motor Sales Co., Lamar, Col., by C. H. Wooden (Dike), assistant manager.

P. S.—We took your advice and added the war tax and then don't have to listen to the customer rave when you tell him that an article is \$10, and when he starts to pay, say: "50 cents war tax." Then he says: "War is H—ll." If a Republican, he cusses the Party in power and, greatest of all, he never comes back, for he thinks you grafted him out of four bits.

### A Reply to "Jack" Fulton

Editor Motor World: I have just read with interest, in your issue of May 21, the open letter written by Jack Fulton, of the F. H. & S. Co., to Mr. Brooks, of the Automobile Supply Co. of Chicago.

As a Ford dealer who has been thoroughly sold on the possibilities of a dealer controlling at least 98 per cent of the genuine Ford parts business in any locality, with the use of proper methods, I could not pass up an opportunity to give my views on a matter of such vital importance to every man in the Ford organization.

The first thing to consider as to the future of this business is the earnestness with which the Ford Motor Co. is going after it and the intelligent and hearty co-operation it is receiving from the dealer. The Ford Motor Co. has instituted this already successful "Insist upon Genuine Ford parts" campaign for at least two very good reasons.

First, because, as Mr. Fulton mentions in his letter, the quality in these spurious parts has been criminally inferior, and were, through their being sold as Ford products, jeopardizing the serviceability of the Ford car.

Second—and this is equally as important as the first—because makers of these parts and jobbers who sold them were interfering with business that rightfully belonged to the Ford Motor Co. and to the Ford dealer.

With these two reasons clearly before every Ford dealer there is no question but that the success of the movement is already assured. For let us say that a manufacturer whose conscience really bothers him improves the quality of his product, what then? He must necessarily bring the price to a point where it is the same as, or higher than the equivalent genuine Ford part. Why? Because it must be admitted that the Ford Motor Co., with its gigantic facilities for manufacture, can turn out a part of better quality and at a lower price than can manufacturers whose combined output on parts amounts to about one-twentieth of Fords.

The result is simple. Is there a repairman or Ford owner who will pay as much

for an imitation as he would for the genuine part? Certainly not. He would expect to buy it on the same basis of price as that on which he buys tires branded "second," and Ford owners are beginning to know the difference and, therefore, insist upon genuine Ford parts.

The point, however, on which Mr. Fulton believes this proposition is most likely to collapse is precisely where it gains its greatest strength. Mr. Fulton no doubt is from the old school, judging from his ideas on the relation between Ford dealer and repairman.

Such a feeling of envy and short sightedness, if it ever existed, has certainly entirely disappeared now. Every Ford dealer realizes that he can command only a certain portion of Ford repair business and that as long as the repairman is to get part of it he may as well let him have it cheerfully, stay on a friendly basis and, incidentally, profit by the parts business that will result. That spirit of working against your competitor and trying to hold him down has now, through dealers' organizations and better business methods, been changed to one of co-operation.

The Ford dealer in any territory is sure to command at least 98 per cent of the Ford parts business if he will bear in mind two things: One, to educate the Ford owner to realize the difference between Ford and imitation parts and to insist upon genuine Ford stock. The other is to co-operate with the garageman and repairman to the extent of giving him good service and constructive help, making him realize the benefits derived from selling a legitimate article, thereby giving his customer a square deal.

As for the jobber, he should understand that in order to retain the friendship and the business of the Ford dealer he must discontinue the sale of spurious Ford parts. The quicker he realizes this the better will be his business relations with that class of dealer whose business he could not afford to lose.

I believe that this expression voices the sentiment of the Ford dealers everywhere and touches on a problem whose future development is of vital interest and deserves careful consideration.—H. G. Wangelin, vice-president, Modern Auto & Garage Co., Belleville, Ill.

### Who Can Help?

Editor Motor World: We have under consideration a proposition for opening a garage to give service to car owners on a contract basis, similar to that which the Cadillac, Oldsmobile, and certain agencies of high grade cars used to give for the first year free of charge to the owner.

We would appreciate it very much if you could advise us if there are at the present time any garages operating for this particular purpose, and where we could get information regarding the system of charging and details in regard to the service they give.—McAfee Specialty Co., A. L. McAfee, 914 Mary Place, Minneapolis.

### 4000 Georgia Ownership Transfers

ATLANTA, GA., June 20—Transfers of automobile ownership registration, aggregating 4000 so far this year, exceed the total number since the license law became effective. Publicity given to the state law which places upon the person in whose name registration of a car stands responsibility for injury done by the vehicle, regardless of its actual ownership, prompted a rush of former owners to record disposition of their automobiles.

### Better Alabama Roads

MONTGOMERY, ALA., June 19—Jefferson County plans to spend \$400,000 on highway improvements. Federal and state officials are going over the projects already mapped out.

## A TRULY CREDITABLE ACHIEVEMENT



Editor Motor World: I am enclosing a photograph of my garage. I only have a little over half of the county and by close watching after the owners of cars have doubled the size of my building in less than three years.—Jess D. Heybach, Leitchfield, Ky.



# SCIENTIFIC CONSTRUCTION

## GARAGES

## SHOWROOMS

## REPAIRSHOPS

### A One-Story Gasoline Service Station

*Character of business—Gasoline service, tires and accessories.*

*Details wanted—Building 40 ft. square, one story. Want to provide space inside for the storage of tires and other accessories; glass divided into small panes for the sake of appearance and display of goods; office.*

*Name—Warren Packard, Warren, Ohio.*

**Answer—**We are attaching a plan of a one-story building designed according to our careful conception of what you desire. It is approximately 40 ft. square and if it is too large it may be shrunk as much as desired without altering the relation of the different rooms.

The function of this building is to provide the best means for selling:

- 1—Gasoline
- 2—Oils and Greases
- 3—Accessories

It is naturally desirable to have the gasoline filling apparatus on the curb inasmuch as this affords a maximum of convenience. However, this often interferes with local regulations and in such a case it may be necessary to "drive in." In this case the driveway must, obviously, circle in front of the building or behind it. The former is very slightly more convenient from the gasoline purchaser's standpoint and for this reason you may decide in its favor. However, if the driveway runs around behind the building, the accessory store may be placed close to the sidewalk so that its commodities

**M***MOTOR WORLD is glad to receive and answer inquiries for garage plans, but in order that there may be as little delay as possible in submitting the plans desired it is imperative that the following information be given:*

*Size of plot, with rough sketch showing shape and its relation to adjoining plots; name and number of departments operated; number of cars to be shown in salesroom; number of cars in garage; any other pertinent details.*

can better attract the eyes of pedestrians.

Since there is this double condition to be met we have laid out the building so that it is equally satisfactory whether there is a driveway around the building or not. The front has two broad display windows with an entrance to the accessory store in the center. In one front corner there is an oil room which may be reached either from the store or from the outside. Here will be kept all the oil barrels or tanks as well as a full stock of greases.

Right behind the oil room is a small office.

The rear half of the building is a stock room and in case there is a driveway around the rear of the building it is advisable to have accessory display windows here also. Likewise in order to

save steps, it may be necessary to have another oil room as shown.

There is a hall through the center of the stockroom so that a man can step out of his car in the rear and reach the store in a most direct manner.

In order to save the steps of the clerks there is a door opening directly from the store into the stockroom as well as doors opening from the hall into the stockroom.

Shoes and tubes might well be carried in one-half of the stockroom and accessories in the other half.

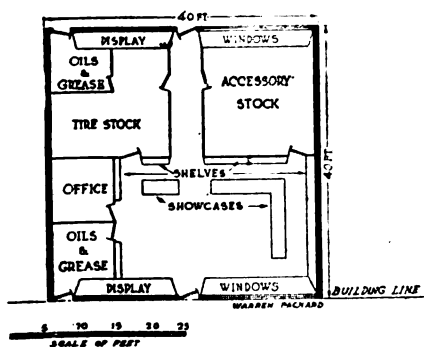
It is difficult to give an estimate as to the cost of this building inasmuch as this varies greatly according to local conditions. However, if you will show this plan to a local builder he can tell you in a moment what it will cost to construct it in that vicinity, at least.

### A One-Story Sales and Service Station

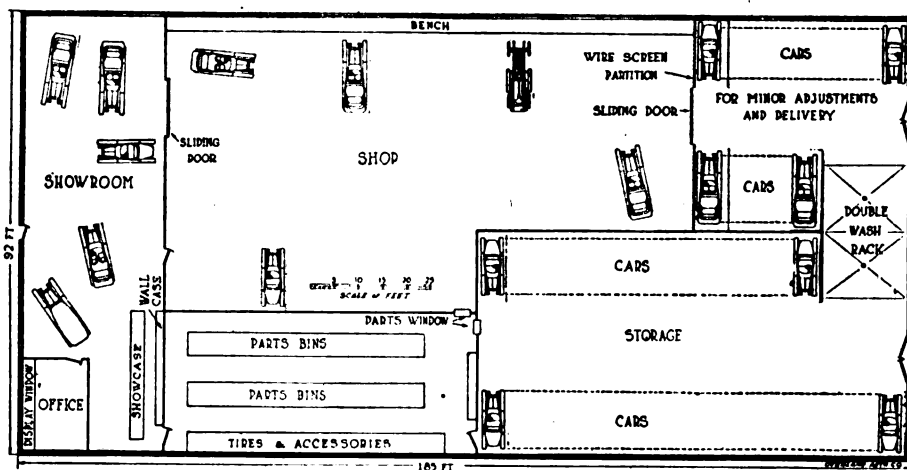
*Character of business—Overland and Willys-Knight sales and service.*

*Details wanted—One story on lot 92 x 185 ft. Lot faces a 60-ft. street and extends back to a 44-ft. street. A 12-ft. alley is on north side. Want to provide for shop to handle 15 cars, storage space for 15 cars, office, salesroom to display at least 5 cars, parts room, tire and accessory store room, show cases and wall cases for small stock of accessories in main salesroom, wash rack in both shop and storage room.*

*Name—Overland Auto Co., Tucson, Ariz.*



*Design for a gasoline service station drawn for Warren Packard*



*Service station and garage for Overland Auto Co.*



**Answer**—The size of your building will permit storing more than 15 cars unless you want an abnormally large repairshop and showroom. The way we have laid this building out, the stored cars are all kept separate from the shop, but it is not really necessary to have a solid wall between the departments if expense is an object. On the other hand a solid wall will prevent injury to the fine finish on the stored cars through dust and particles that come from the shop.

The parts and accessories stockroom has been placed so that it is at once accessible from the showroom where the accessory showcases are located and from shop and storage departments. The windows to the two latter departments are close together so that one man can tend to both of them.

It is quite desirable that customers be kept out of the shop proper, therefore a wire screen partition has been placed just inside the entrance to the shop and all minor adjustments to cars can be made and instructions given for work here, the cars afterwards being taken inside if necessary.

In order to bring the office near the showroom and at the same time not diminish the window display space, a display window is placed in front of the office. This should have a wooden partition 4 or 5 ft. high so that the office is not visible from the street, but the light can come into the office through the windows.

Only a small door is placed in the front of the showroom and the show models are taken in and out through a sliding door into the shop.

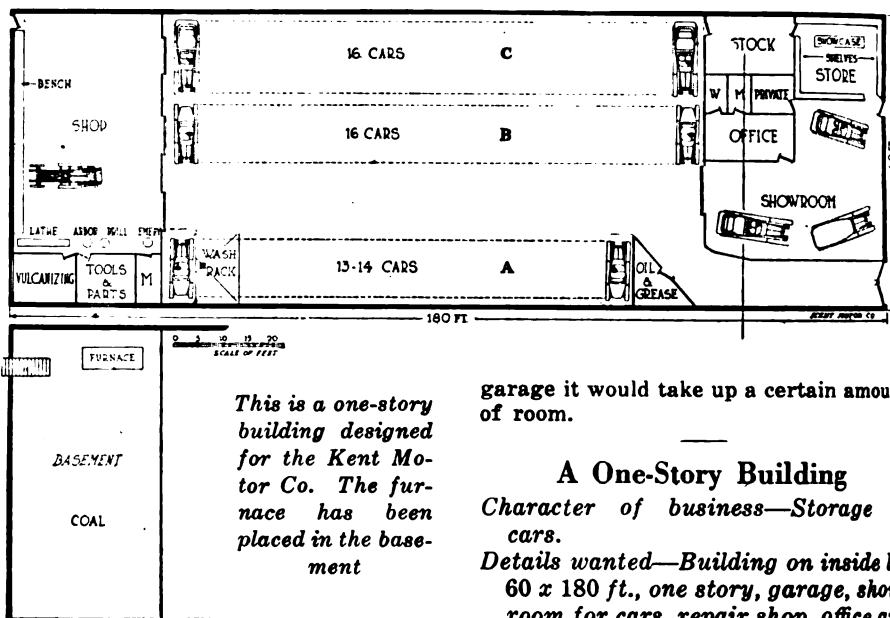
### Converting a Building

**Character of business**—Car and accessory sales, service, battery charging, washing, storage, vulcanizing.

**Details wanted**—Building 36 x 160 ft., to be converted into a garage, entrance on main street, exits into alley, showroom, accessory display space, vulcanizing room, office, shop to hold 5 cars, room for lathe, drill press, grinders, etc., battery charging room, wash rack, and space for storage.

**Name**—Gold Bar Garage, Gold Bar, Wash.

**Answer**—Herewith is a plan which is approximately what you requested. We



*This is a one-story building designed for the Kent Motor Co. The furnace has been placed in the basement*

garage it would take up a certain amount of room.

### A One-Story Building

**Character of business**—Storage of cars.

**Details wanted**—Building on inside lot 60 x 180 ft., one story, garage, showroom for cars, repair shop, office and stockroom.

**Name**—Kent Motor Co., Kent, Wash.

**Answer**—Here is a plan which we hope will meet with your approval. Please note that there are three longitudinal rows of cars in the garage. This is a very economical utilization of the space, but you will naturally wonder how a man with a car in the back row is going to get out until the car right in front of him is out of the way. The solution is this: Cars in the front row should be machines which come in late and leave early and cars in the back row should be those which leave late and come in early, while those in the row by itself are ones which cannot be so classified. Every time a new customer comes in, inquiry by the floor man will show whether he can be assigned to one of the three rows permanently or whether his plans for the next day must be ascertained each night, and the position of his car regulated accordingly. This is not theory but is what a great many garagemen are actually doing in various parts of the country, and this explanation is offered simply because you may not be familiar with this method.

If this method does not appeal to you, the next most economical arrangement for this building is to use four cross-wise rows, each pair of rows having an aisle, and the two aisles connecting with the main entrance by a passageway extending straight back from the driveway.

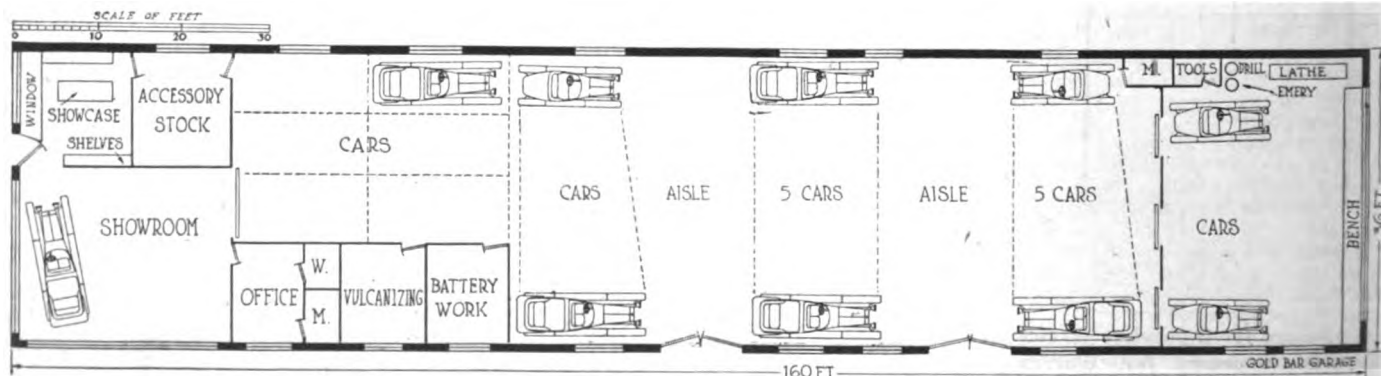
### The Next Installment of

### Modern Methods in Ford Service

will appear in the next issue of *Motor World* and will take up in detail the

### Operations of Testing and Overhauling the Magneto

DO NOT MISS THIS IMPORTANT CHAPTER



A building 36 x 160 ft. designed for the Gold Bar Garage



# The RETAIL NEWS

## NORTHWEST

Paul and O. V. Grindel have purchased the Fort Madison, Iowa, battery station and will give service in Willard batteries.

A. W. Sallander, Fort Madison, Iowa, is building a new garage, 50 x 187 ft., at 1018 Front Street. He will distribute Overlands in this territory.

O. Brecht Motor Car Co., Fort Madison, Iowa, has opened a garage and salesroom for Nash and Dodge cars at 210-212 Cedar Street.

Moore Auto Co., Berthold, N. D., is branch of Minot company opened in Paige Building to handle Ford cars, repairs and accessories.

Ray Nulph, Noonan, N. D., formerly proprietor of the Noonan Garage, has gone into partnership with Frank Bainter in the repair business, in the Lindstrom & Holte implement house.

Hans Rud, Pettibone, N. D., has bought the garage business of D. E. Woodfill.

Hurdsfield Auto Co., Inc., Hurdsfield, N. D., has been incorporated at \$25,000 to deal in automobiles. Lee Benshoof and associates are the incorporators.

Central Garage, Inc., Jamestown, N. D., is a new company with \$25,000 capital. Philip Mason and Frank Laford are the incorporators.

Hankinson Motor Service, Hankinson, N. D., is a new corporation with \$50,000 authorized capital, formed by A. H. Brown and associates to carry on an automobile service business.

Quanrud, Brink & Reibold, Bismarck, N. D., have incorporated at \$50,000 to carry on an automobile business. O. L. Quanrud & Son have been in the supplies business.

John B. Painuck and his son, Nick Painuck, Bekfield, N. D., have bought the John Klock garage and blacksmith shop.

Coulter Motor Co., Alexander, N. D., has taken over the business of the R. B. Gore Garage.

P. J. Finnegan, Anaconda, Mont., has bought an interest in the Park Garage.

H. A. Cleveland, Redstone, Mont., has bought the interest of L. G. Brastad in the garage business.

The Eagle Heights Co., Billings, Mont., has been incorporated at \$10,000 by Lee Wood, Jacob Zimmerman and others, to carry on an automobile business.

W. G. Stinson, West Concord, Minn., and Charles Stinson, have bought the Claremont (Minn.) garage.

The Home Auto Co., Twin Valley, Minn., has been incorporated at \$25,000 and will deal in automobiles and will repair motor cars and farm machinery. O. H. Elemetsrud is president and M. E. Dahl is secretary.

Gust. Mahlem, Hinckley, Minn., has bought the interest of A. S. Weller, George B. Knight and B. G. Wells in the Fireproof Garage at Pine City, Minn.

E. F. Franklin Garage, Blue Earth, Minn., has been sold to the Motor Inn Corp. of Albert Lea, Minn.

Adolph Engbard, Claremont, Minn., has sold his garage to S. H. Stinson and Elmer Lindell of Red Wing, Minn.

M. H. Graham and C. E. Tripp, Zumbrota, Minn., have sold the Zumbro Auto Co., garage, accessories and repairs, to the Pioneer Garage of Red Wing, Minn., of which C. E. Tripp is part owner also.

Kimmel & Meyers, Rollingstone, Minn., automobile dealers and garage owners, have sold out to Alexander Speltz and Edward Zenk.

Chase Bros., Farmington, Minn., have sold their garage to McKay Bros. of Austin, Minn.

A. C. Sherman and William Spallinger, Clinton, Minn., have formed the firm of Sherman & Spallinger to take over the garage business formerly operated by Finberg & Lewis.

Walter Harrison, Fargo, N. D., proprietor of the Hassler Distributing Co., has bought the business of the B. M. Calkins Motor Co., 623 Second Avenue North, from B. M. Calkins. He will continue the Hudson and Essex agencies and the Hassler company.

James C. Hanson, Sioux Falls, S. D., has bought the business of the Western Battery & Supply Co., Main Avenue and Eleventh Street.

The Clements Automobile Co., 303 West Ninth Street, Sioux Falls, S. D., handling the Buick car, has leased a garage being built at Dakota Avenue and Ninth Street.

Nelson Sinkler Cattle Co., Wood, S. D., has bought the Wood garage.

The Illinois Tractor Co., Sioux Falls, S. D., will distribute in the Dakotas its tractor and service trucks from a building being erected by Sanders Bros. W. J. Crouch of Lafayette, Ind., is to be head of the company.

M. R. Berkheimer and C. W. Corners, Sioux Falls, S. D., have taken over the business of the Dakota-Paige Motor Co. and will handle the Elgin car.

City Garage, Mitchell, S. D., has been sold by Heaney & Dean to Drom & Rudd, the new managers.

Hatfield Motor Supply Co., Aberdeen, S. D., incorporated to sell accessories, has opened in a new building at 205 South Lincoln Street.

The Northwestern Radiator Repair Co., Aberdeen, S. D., has been opened by J. F. Heintz.

Frank E. Payne, Aberdeen, S. D., of the Payne Auto Co., 111 Third Street, S. W., agent for the Haynes car, has opened a repairshop and accessories store.

William Ramsell, Sioux Falls, S. D., has been appointed sales manager for the Clements Automobile Co., which sells the Buick car.

Sylvester Poll, theatrical man from New Haven, Conn., has bought the Twin City Plate Glass Co. Building at 2218 University Avenue, St. Paul, and will utilize it for storage and repair of McGraw tires. The price was \$40,000.

The Northwest National Motor Car & Vehicle Co., St. Paul, Minn., has been formed to distribute National cars in Minnesota, except St. Louis county, in parts of the Dakotas and seventeen counties in Wisconsin. Temporary sales quarters are at 353 Main Street. J. W. Greeves is president and Dock McConnell is treasurer. E. J. Sullivan and G. A. Wallentin will assist Mr. Greeves, formerly of the Winton company, in the sales department, and Mr. McConnell will supervise the service.

The Central Garage, Inc., St. Paul, Minn., is one of the first to resume construction of a large automobile building. It will be at Exchange and Wabasha Streets, three stories and basement, 75 x 150. It will cost \$185,000 and be completed Sept. 15. The company is now at 122 West Central Avenue and has thirty-five men. The roll will be increased to 100. The new building will have workmen's clubrooms. L. A. Muessel is president of the company.

Marchant Bros., Canton, Minn., have bought the interest of George McMaster in the Canton Garage and are now sole owners.

William Spallinger and Alton Sherman, Clinton, Minn., bought the garage business of J. F. Lewis.

Charles Brinkman and C. C. Graupman, Plato, Minn., have bought the Peter Hoof Garage.

E. A. Paetznick, Storden, Minn., sold his garage to Jenness & Moore of Windom, Minn.

Sorvig Bros., Winger, Minn., have taken over the management of the Gate City Garage.

Gerrit P. Poolman, Edgerton, Minn., has bought the Ford agency of Vander Pol Bros. Youn & Parsons, Westbrook, Minn., have sold to A. Oscar Anderson of Sanborn, Minn., their garage building.

B. C. Streeter and H. P. Lufkin, St. Cloud, Minn., have formed the St. Cloud Auto Supply Co., which will open accessories salesrooms in the Meyer Block.

W. H. Neltmiller, Minneota, Minn., has bought the interest of C. V. Neal in the Square Deal Garage.

Main Motor Sales Co., Anoka, Minn., has bought the James Ward interest in the Main Garage Service Co.

S. P. Diemert Co., Moorehead, Minn., has succeeded S. P. Diemert & Co., with the addition of C. O. Jacks. The firm opens in Fargo, N. D., across the Red River, and will take on the sales for the district of the Scripps-Booth car and La Crosse tractor. It is now agent for the Dort.

The Red River Motor Co., Moorhead, Minn., will move to a new building in Fargo, N. D., and will sell the Velle line and the Denby truck in twenty-seven counties of that state. Roy Hamilton will be manager. J. R. Fleming has withdrawn from the firm.

The Packard Motor Car Co. has purchased the business and plant of the Buck Motor Car Co., 221-223 East Second Street, Davenport, Iowa, and placed Harry Jones, late of Chicago, in charge. Jones has been with the Packard concern for twelve years.

Glenn Brier, Aledo, Ill., has purchased the interest of his partner, A. M. Gerecke, in the West End Garage.

## PACIFIC COAST

Thompson & Shepherd, Seattle, will erect a frame garage, 41 x 40 ft., at 2601 Fifty-ninth Avenue, S. W., to cost \$4,000.

Erb & McKean, Seattle, agents for the "Come 6" automobiles, trucks and tractors, will occupy a new structure to be erected at once. The building will be 45 x 108 ft., two stories, brick and tile, costing about \$20,000.

The Goodyear Tire & Rubber Co., Spokane, has taken a five-year lease on a four-story brick building at W817 First Avenue, which the firm will remodel at a cost of \$5,000.

Reynolds & Reynolds, Seattle, are successors to the Automobile Supply Co., wholesale dealer in automotive equipment. The firm maintains branches in Seattle and Tacoma.

Stewart Products Service Station, Alex C. Hansen, owner, Seattle, has leased headquarters at 910 East Pike Street, where the concern's floor space will be increased 100 per cent.

Roy G. Rossman, tire dealer, Seattle, has taken the agency for the Michelin tires for the district north of Portland and west of Spokane.

The Transpacific Motors, Inc., Seattle, has been formed to handle the Indian truck in this territory. The firm is now building a new structure, 160 x 120 ft., at Fifth Ave-



nue and Bell Street. C. J. Peoples heads the concern.

Beermen & Lorenz of the B. L. Garage, Seattle, have taken the agency for the Allison low-grade fuel burner, in Seattle.

McKale Bros., Seattle, have opened new quarters for their tire business at 1201 Pine Street. The establishment will be known as McKale Brothers' Tire Co.

A. M. Beaver, The Dalles, Ore., will take over the distribution of Premier, Liberty and Briscoe cars, and the Parker truck. William R. Earl will be associated with him.

Kelly-Springfield Tire Co. will establish a factory distributing branch in Portland.

Munnell & Sherrill, 40 First Street, Portland, has taken the agency for Oregon, northern California, part of Washington and Idaho for the Mohawk tire.

Bruce C. Deaton, Seattle, has taken the agency for Oldfield tires in King and Kitsap counties under the name of the Deaton Tire Co., with headquarters at 1211 Pine Street.

The Daniels Sales Agency, Seattle, has changed its name to The Greater Motors, Inc., and has taken over the Templar automobile.

Chapman's Motor & Machine Shop, Vancouver, B. C., will build a two-story reinforced concrete garage and machine shop, to be 50 x 120 ft.

The Roesch Motor Car Co., Seattle, will build a one-story masonry sales building, 120 x 108 ft., with brick walls, to cost about \$20,000.

F. H. Bloedel, Seattle (White Building), will erect a two-story and basement garage and salesroom, 120 x 90 ft., to cost \$40,000.

Ahrens & Ahrens, Spokane, Stephens distributors, will occupy a new garage and salesroom, to be built at once.

R. B. and L. S. Bennett have purchased from C. F. Gilbert, Hood River, Ore., his automobile agency and will operate it under the name of the Bennett Motor Car Co.

Fields Motor Car Co. is the new style of Regner & Fields, Inc., Portland, Ore. This firm, which distributes Chevrolet cars in the Portland territory, has just removed to a \$45,000 building with 20,000 square ft. of space at Fourteenth and Alder Streets.

H. J. and A. M. McIntosh, Portland, Ore., have formed the Pepp Motor Car Co. to distribute the Revere and Crow-Elkhart and Simplex windshield wings in western Washington. Their headquarters will be Seattle.

The D. C. Warren Motor Car Co., Portland, Ore., Velle and Peerless distributor for Oregon, has acquired the whole of Washington and northern Idaho through purchase of two Washington motor car firms. A half-interest was purchased in the Rousch-Olsen Motor Car Co. of Seattle, hereafter to be the Olsen-Warren Motor Car Co. The other was the purchase of the International Auto Co. of Spokane.

Bradstreet Rubber Co. is the new style of the corporate title of the Western Rubber Co., Los Angeles.

The Atterbury Truck Sales Co., Portland, Ore., has added the Stewart truck to its line for the Oregon territory and southwestern Washington.

The Oregon Motor Car Co., Portland, Ore., has taken the distribution of the Master truck for Oregon and southwestern Washington.

#### EAST

Harvey L. Heald has opened a store and shop for the sale and repair of tires at 211 Railroad Avenue, Elmira, N. Y. He also handles accessories.

The Aetna Motors Corp. of New York has been appointed agent for the Wilson trucks in eastern New York, Connecticut and northern New Jersey.

F. L. Sanford will be in charge of the

New York branch of the Dort Motor Car Co., Flint, Mich., which will be opened shortly in the Ehret Building, Fifty-eighth Street and Broadway. Mr. Sanford was for several years manager of the Studebaker branch in New York.

Charles A. Paine, formerly with the Belcher & Loomis Hardware Co., Providence, R. I., has taken charge of the automotive equipment division of the Nemours Trading Corp., 151 Fifth Avenue, New York.

Gilbert Dill, 115 Concord Avenue, Wilmington, Del., has taken the local agency for the Stearns line.

#### SOUTH

Smith Bros., Lexington, Ky., have been appointed to distribute Armleder motor trucks in Lexington and vicinity.

#### SOUTHWEST

J. W. Leebel and A. C. Brown have recently completed a 50 x 100 stucco garage at Clearwater, Kan. It will be known as the Motor Inn, and in addition to conducting a general garage business they will stock a complete line of accessories.

#### MIDDLE WEST

L. Eldridge has opened the Bloomington Used Ford Market at Bloomington, Ill. He also deals in accessories and, as he puts it, "everything for the Ford."

Ralph Wixon and Clarence Wixon, partners operating as the Globe Tire & Supply Co., will specialize in the sale of tires and tubes at their new store just opened in Toledo. They will handle the McGraw line.

The Battery Service Garage, Grand Rapids, Mich., distributor of the Philadelphia Diamond Grid storage battery, has moved into new quarters on Bond Avenue.

Carl V. Torgler, Herbert Torgler and Edwin J. Huebner, Toledo, Ohio, have purchased S. B. Chambers' interest in the Chambers Motor Sales Co. and will incorporate a new company to take over the business. More than a year ago Carl Torgler purchased a half interest in the business. The new concern will continue to handle the Velle and Elcar and will shortly announce a new agency.

L. B. Allen, Heyworth, Ill., has purchased the Ford garage of O. L. Weaver, who is now in charge of the assembling department of the Illinois Tractor Co. at Bloomington, Ill.

The Morris-McLoney Co., Springfield, Ill., has been appointed distributor for the Onelda truck in Sangamon, Christian, Montgomery and Macoupin counties. George C. Blee has been appointed truck sales manager.

F. J. Swigart, Springfield, Ill., has been appointed distributor of the Master truck in the central Illinois territory. He has opened a sales agency at 913 East Capitol Avenue. He was formerly identified with the R. E. Hatcher Co. in that city.

Howard Zahn, Jacksonville, Ill., has completed a garage, 120 x 180, two stories, located at 221-223 East Morgan Street. There is floor space of 33,000 sq. ft. The cost of the plant was \$55,000 and it ranks as one of the most complete in that section of the state. The Buick and Chevrolet cars and the International tractors are distributed in the Morgan county territory.

The Morris-McLoney Co., Springfield, Ill., has been appointed distributor for the Cole car in Sangamon and eight adjoining counties.

Capt. C. J. Wells of Milwaukee, Wis., has taken on the distribution of the Exide battery for that territory and opened a service station and salesroom at 233 Sixth Avenue, North.

Quincy Battery & Electrical Testing Co.,

Milton Breder, manager, has opened a service station and salesroom at 713 Hamp Street, Quincy, Ill., and taken distribution for Prest-O-Lite for this territory.

The Hinkel Motor Truck Corp. has taken over the distribution for the Cleveland district of the Rainier truck.

The Quality Tire & Rubber Co., Detroit, has been appointed agent for the Gillette tire, manufactured by the Gillette Tire & Rubber Co.

E. J. Doran has been made service manager of the Detroit branch of the Chevrolet Motor Co. He comes from the aviation service, where he was in charge of testing and experimental work on Liberty engines at Morrow Field, Detroit.

The Auto Electric & Service Corp., Detroit, has been appointed state distributor for the Esta water auxilliator, a device for keeping the engine free from carbon.

The Cut Rate Tire Store, Port Huron, Mich., has taken the agency for the Columbia Six.

Stanley McCloskey, for eight years connected with the service department of the King Motor Car Co., has opened a garage in East Detroit.

The Siegel-Zeckendorf Co., Detroit, distributor for the Chandler car, has been appointed Michigan distributor for the new Cleveland automobile soon to be placed on the market by the Cleveland Automobile Co.

#### NEW GARAGES

A. W. Ohland.....Biscay, Minn.  
Kennedy & Farrell.....North Branch, Minn.  
Mahnomen Wood & Iron Works  
(repairshop) Mahnomen, Minn.  
Edw. Ellefson.....Lindstrom, Minn.  
Nyquist Bros. ....Harris, Minn.  
Hawkeye Oil Co. (station)..Fairmont, Minn.  
Broms Tire Repair Co.....Alexandria, Minn.  
Automotive Co. (tireshop)...Chisholm, Minn.  
W. F. Powell & Co.....Warren, Minn.  
August Larson.....Amboy, Minn.  
Tramo Co. ....Pine River, Minn.  
Kruze & Lang.....Cannon Falls, Minn.  
Andrew Thompson (50 x 72)...Nassau, Minn.  
Arthur Halling (repairshop)....Milan, Minn.  
William Kendall (repairshop)  
Chatfield, Minn.  
Erickson Bros. ....Two Harbors, Minn.  
Samuel Katz (addition).....Chisholm, Minn.  
Leslie Arnold.....Tabor, Minn.  
People's Auto Co. (salesroom)  
Thief River Falls, Minn.  
J. E. Burt (tireshop).....Sleepy Eye, Minn.  
F. J. Kitowski (service station)  
St. Cloud, Minn.

C. A. Peterson (accessories)  
Red Wing, Minn.  
Manhattan Oil Co. (station)....Austin, Minn.  
Standard Oil Co. (station)....Staples, Minn.  
Robert Schaffan (75 x 104)..Fairmont, Minn.  
Latnedresse & Kelfenheim (repairshop)  
Red Lake Falls, Minn.  
Ingval Moen.....Mahnomen, Minn.  
Yench & LaCroix.....Hugo, Minn.  
Garceau & Mirau.....Red Lake Falls, Minn.  
Teiten & Graalum.....Hastings, Minn.  
Gus. Belkey.....Glyndon, Minn.  
R. A. T. Meyr.....Warroad, Minn.  
Harry McAlpine.....Bock, Minn.  
Carl Aronson.....Ellendale, Minn.  
J. J. Litcher.....Lewiston, Minn.  
St. Cloud Auto Supply Co. (supplies)

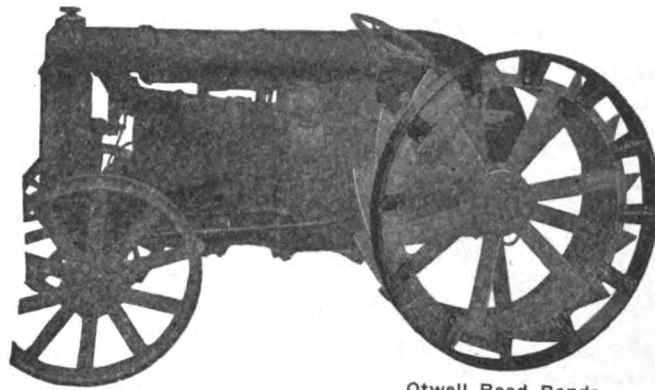
St. Cloud, Minn.  
Bolivar-Ninth Garage.....Cleveland, Ohio  
(J. W. Lehman)  
Rolf Auto Co. (52 x 132).....Rolf, Iowa  
B. F. Shoulberg.....Akron, Iowa  
Spencer Auto Co.....Lake View, Iowa  
Brown-Fry Auto Co.....Vinton, Iowa  
Forest Bale.....State Center, Iowa  
Rex McNurlen.....Sigourney, Iowa  
Otto Burrichter.....Monticello, Iowa



# Automotive Equipment

## OTWELL ROAD BANDS AND FENDERS FOR FORDSON TRACTORS

The road bands attach to the outside of the Fordson tractor wheel, the outside diameter of the bands being the same as the outside diameter of the wheels, including cleats, so that when on the road the tractor will run on these bands instead of on the cleats, preventing injury and damage to the roadway. The fenders are attached over the upper part of the tractor wheels and prevent throwing of sticks and stones and also injury to the operator through falling against the wheel. Tractor Equipment Co., Detroit.



Otwell Road Bands

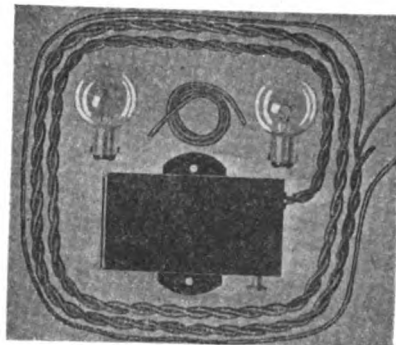
be instantly dimmed to the proper degree suited to city driving or when passing other cars. The device attaches to the steering column and requires only a few minutes to connect. The outfit is complete with wires, two 6-volt bulbs and full directions for attaching. Finished in nickel and black. Price \$5. Million Motor Co., Adrian, Mich.

## MILLION CAPILLARY WATER VAPORIZER

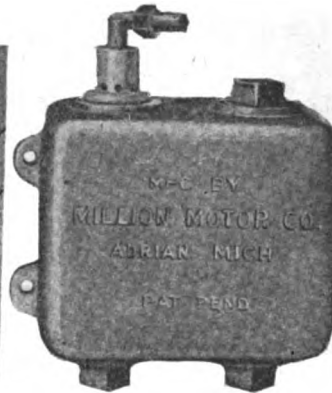
This is a device to be attached to the intake manifold to draw up water to the air-mixing chamber by a special wick. It is there broken up into a fine mist by a very fine mesh brass wire cloth. There is nothing to wear out or replace, and the device may be used as a primer for starting by filling the container with gasoline and installing a stop-cock on the inlet tubing of the device. It may be attached under the hood or on the dash, and comes complete with connections and tubing. Price \$10. Million Motor Co., Adrian, Mich.

## MILLION HEADLIGHT REGULATOR FOR FORD

This is a combination headlight regulator and dimmer switch for Fords, and is designed to give the same steady light at any engine speed. The dimming switch is built into the regulator, and the lights may

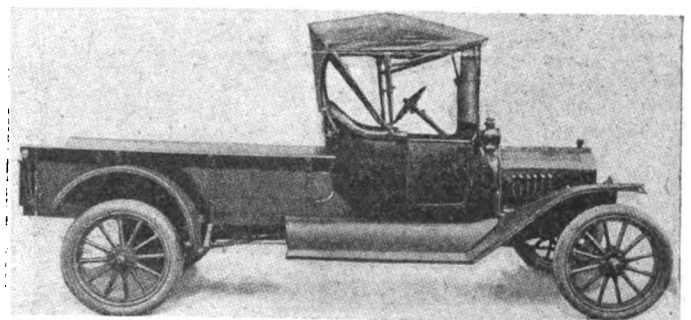
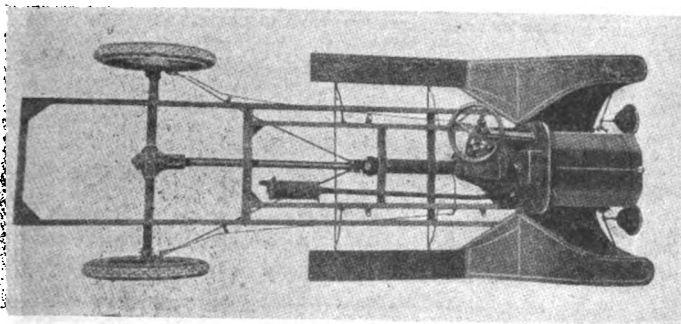


Million Headlight Regulator



Million Vaporizer

## Augerford Truck Attachment for Fords



**AUGER BROS. MFG. CO.**, Minneapolis, is manufacturing the Augerford attachment for converting Ford passenger cars into trucks. The attachment necessitates a minimum amount of changes in the Ford chassis and no machine work is necessary either to turn the car into a truck or to turn it back into a passenger car. The features of the device are that the wheelbase is lengthened and the gear ratio and speed of the car are not altered in any way. The vehicle will have a capacity of from  $\frac{1}{2}$  to  $\frac{3}{4}$  ton.

Two models are obtainable, the No. 1 having a wheelbase extension of 18 in.,

which gives a length of frame behind the cab of 50 in. The No. 2 attachment has a wheelbase extension of 24 in., giving a length of frame of 81 in. behind the cab. The two models are identical with the exception of the different length wheelbase.

### Prices

The price of either the No. 1 or the No. 2 model is \$75.

Bodies to fit these models are made in flareboard, stake, express, etc., at prices ranging from \$60 to \$105. The bodies for the two different lengths are necessarily of different dimensions.

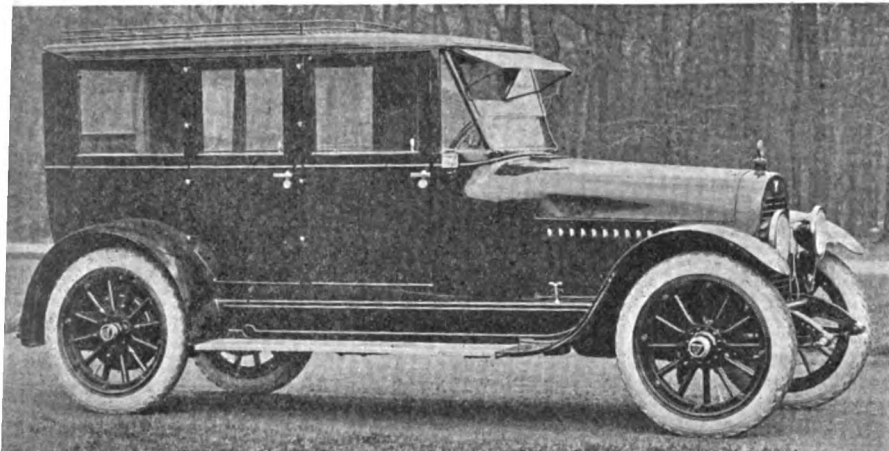
## Georgia Dealers Organize

MACON, GA., June 19—Automotive dealers of this state have condemned a proposed bill to be introduced in the next legislature for a license fee as high as \$1,000 and \$1,500 on trucks of 5- and 7-ton capacity. They are also against the Federal practice of confiscating cars carrying liquor. In order to handle those and other problems the Georgia Automotive Dealers' Association has been formed with about 200 members. R. C. Dunlap of this city is president. Harry C. Moock, St. Louis, business manager of the N. A. D. A., spoke at the organization meeting.

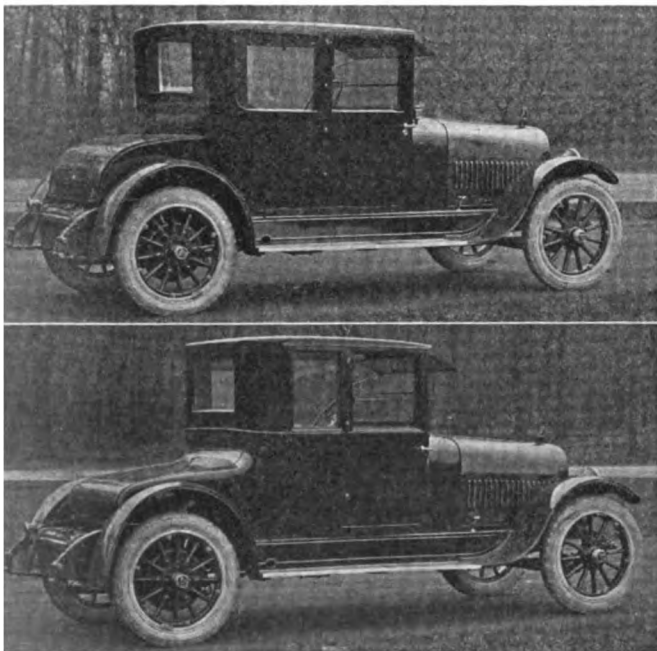


# Hudson Super-Six Will Have Five New Enclosed Body Models

*Curious Appointments and Comfort to the Limit Characterize the New Designs to Be Mounted on the Super-Six Chassis—Driver's Seat Staggered to Allow Easier Handling of Control Levers*



*The Hudson touring limousine, which is designed for driving by either chauffeur or owner. The glass partition between the compartments can easily be raised or lowered*

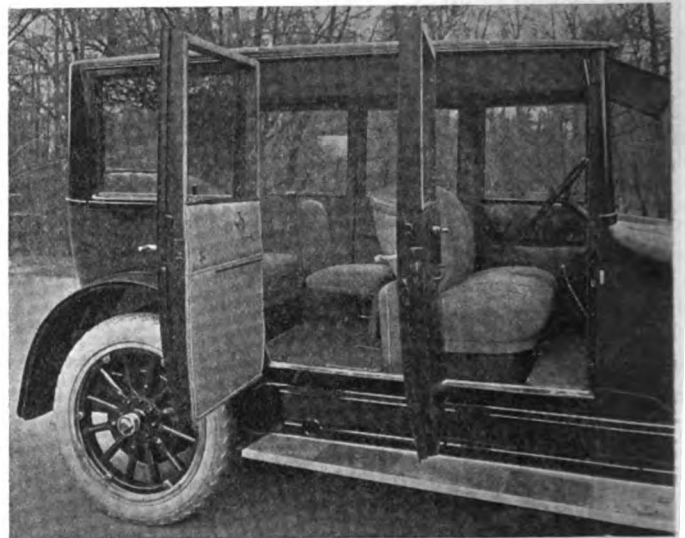


*The upper view is of the coupe and the lower of the cabriolet. The latter is a slightly modified continuation of the standard Hudson model, while the coupe will carry four passengers*

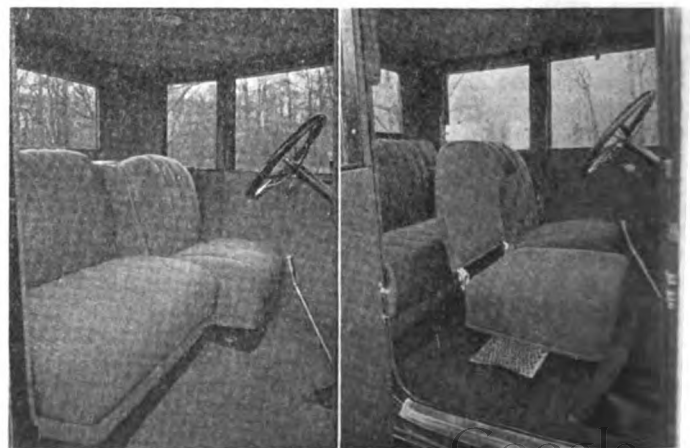
**F**IVE new enclosed body types will make up the line of Hudson Super-Six enclosed models for the 1919-1920 winter season. These will be a sedan, coupe, cabriolet, touring limousine and limousine. These cars have all been improved in detail throughout and are developments of previous models.

The sedan departs from previous practice in that the front seat is continuous across the body. This not only gives greater room in the front seat, but also acts as a tie across the body, giving increased rigidity. The two auxiliary seats are more luxuriously upholstered than heretofore and these face forward. Ample room is provided for seven passengers. The doors are now carried on three hinges and are equipped with leather cover and steel robe rail. There are four doors on the new Hudson sedan. The door windows all open wide and are lowered and raised by means of revolving lift. The rear windows are adjusted by a fabric-covered strap. There is also a jeweled dome light over the rear seat and a ventilator on the cowl.

The touring limousine can be used either as a chauffeur-driven car or an owner-driven. By simply raising the glass partition from the back of the front seat it becomes the formal type of



*Above and below are interior views of the new Hudson bodies. The lower one shows how the auxiliary seat folds down out of the way*





limousine. When the glass partition is lowered, however, the front and rear compartments are thrown together. There is a luggage rack on the top for touring and a heater in the rear compartment. The door windows are raised and lowered by a revolving lift. The car is noteworthy for the completeness of its equipment. There is a smoking set and vanity case in the rear compartment and jeweled dome lights in both compartments. The shades are silken and are roll type, provided for the rear windows and also for the partition separating the front and rear compartments. The fittings include ivory trimmed handles and a clock and mirror in front of the driver.

The coupe is a four-passenger type of conventional coupe line. The auxiliary seat in the coupe folds snugly out of the way when not in use, but when raised there is ample room for four passengers. This car is also provided with a heater, and there are silk roll curtains on the side and rear windows. The doors and windows in this car are also raised and lowered by revolving lift, and the side windows may be adjusted by the use of small handles.

The cabriolet is a continuation of what has been proven a popular Hudson model for the past 5 years. The driver's seat in this car is staggered to afford freedom of motion in handling the control levers, and there is a luggage space provided behind the driver's seat and also in a compartment under the rear deck. This car, like the other Hudson enclosed cars, is equipped with silken roll curtains on the rear window and has a jeweled dome light in the top. The door windows are operated by a revolving lift and the side windows by straps. All fixtures are nickel plated.

The following list gives the coloring and price of each of these models:

Car	Price	Finish
Sedan.....	\$2775	Dark blue with black fenders
Coupe.....	2950	Dark blue and black with white striping
Cabriolet.....	2450	Dark blue and black with white striping
Touring Limousine	3300	Dark blue with black fenders
Limousine.....	3650	Dark blue and black

#### Motorists Endorse Bi-State Dealers

NEW ORLEANS, June 20—The Motor League at its recent annual meeting endorsed the Bi-State Automobile Dealers' Association of Louisiana and Mississippi, organized, according to its by-laws, "to promote a greater automotive industry in the two states, to promote good roads and streets, to fight legislation harmful to motorists and generally to favor state and municipal projects which would be of benefit to the motorist."

#### Good Roads in Arkansas

LITTLE ROCK, ARK., June 20—Highway officials estimate that at least \$25,000,000 will be expended in hard surfaced road construction in the state in the next five years.

## IOWA VALUES SOAR AND DEALERS SMILE

### Farmers Get from \$300 to \$800 an Acre and Sell Products for Prices That Mean Trac- tors and Cars

DES MOINES, June 19—Iowa tractor dealers are looking with optimism on the greatest boom in land that the Hawkeye state has ever known. For sixty days now Iowa has been land crazy. Farms have changed hands with the rapidity of stock exchange operations and at prices which five years ago would have been considered out of reason. Sales at \$500 per acre have become a matter of almost every day occurrence in some parts of the state and while this figure is, of course, above the average it is not the top figure. For instance, up in Obrien county in Northwest Iowa a deal is now pending for the sale of 175 acres where the owner has been offered \$600 per acre but as yet is holding out. Incidentally this same farm was purchased thirty-five years ago by the present owner for eight dollars an acre.

In Polk county, in which Des Moines is the county seat, an old homestead lying close to Des Moines was sold at \$800 an acre. At Aurelia, near Chokoke, sixty-six acres sold this week for \$500 per acre. Near Perry, in Dallas county, the top price has been \$400, and this amount was paid by Leonard Gotteschalk for the eighty acres owned by B. M. Swisher.

Two weeks ago John Griffin, county sheriff of Polk county, bought 163 acres at \$300. He sold it to Judge George Wilson for \$320 per acre and within the week the latter disposed of it for \$340 an acre.

From a number of Iowa county seat towns are reports that individual real estate dealers have closed as many as six farm sales in one day and one farm is reported to have been sold six times within a month.

While there is, of course, much speculation in these operations many of the buys have been made by farmers.

Big profits that the Iowa farmer has made during the last few years are responsible for setting off this wildfire of land sales. Something of just what these profits have been and how the values have increased may be learned from figures compiled by the Iowa weather and crop service.

In 1913 the value of the Iowa field crops combined with the dairy and poultry products was \$531,188,230, and the live stock of the state was valued at \$470,272,000. In 1916 the field crops and dairy and poultry products had increased in value to \$729,165,000. The live stock on the Iowa farms in 1916 was rated at \$534,303,000.

Last year's figures given out by the crop and weather service place a valua-

tion on the field crop—dairy and poultry products—of \$1,041,289,665, while the live stock was held to be worth \$686,064,800. This would mean an increase in the value of all farm products, including live stock, in five years of \$556,914,269.

Up in Ida county, which is the popcorn growing section of the state, any number of growers got as high as 3500 pounds of popcorn an acre. Selling it at twelve and a half cents per pound, which was a fair price, meant a profit of \$437.50 per acre.

A Sibley, Iowa, farmer went into the Sioux City stock yards with eighty-six head of cattle and 137 head of hogs. His steers brought him \$15 per hundred and his hogs \$20.20, and he went back to his little old Iowa farm with a check for \$22,027 in his pocket.

#### Tractor Dealers Optimistic

With Iowa land values mounting skyward and her farm crops reaching billion dollar figures annually, tractor dealers feel that their days are here. It isn't going to be long until the Iowa farmer sees that he cannot take a chance on harvesting \$2.26 wheat with the old-time horse-drawn methods, covering seven to ten acres a day when with a tractor he can cover thirty acres. As one Des Moines tractor distributor explained it, there is no more reason for a present day Iowa farmer trying to handle his farm with horses than there was for a 1918 manufacturer trying to handle war orders without modern machinery.

That the Iowa farmer is coming to a realization of the automotive dawning is shown by the fact that the Herring Motor Co. of Des Moines, Fordson distributor, sold 900 tractors during the month of May. Of this number 473 went on Iowa farms and the rest into Nebraska and South Dakota.

#### New Paige Officers

DETROIT, June 21—Frederick L. Jewett has been elected first vice-president of the Paige-Detroit Motor Car Co. Appointments and promotions to meet the growing needs of the organization and in recognition of efficient service were announced as follows: W. A. Wheeler, vice-president, manufacturing division; Henry Krohn, vice-president, sales, passenger car division; Charles S. Pike, vice-president, sales, truck division; Thomas Bradley, vice-president, purchasing division; Andrew Bachle, vice-president, engineering division; G. C. Mather, chief engineer; J. V. Quinlan, production manager; George Petersen, general superintendent; C. B. Gaunt, sales manager, passenger car division; Frank E. Caulk, sales manager, truck division.

#### Studebaker Parts in One Catalog

SOUTH BEND, June 19—All models of Studebaker cars since the 1909 "30" are represented in a Master Parts Catalog and Price List just compiled by the Studebaker Corp. This book also advises owners to order their parts from the local dealer instead of from the factory.



# News Letters From Busy Centers

## The Week in Philadelphia

PHILADELPHIA, June 21—They ate it to-night—that real honest-to-goodness dinner at Kugler's Mohican Club on the Delaware, did that jolly group of kindred spirits, the Motor Truck Association of Philadelphia, the Philadelphia Automobile Trade Association, the Automobile Accessories Business Association and the Camden Automobile Trade Association. And they sluiced it with Some Liquid Refreshments—capitalized just that way. It was the big automobile trade outing of the year, the apex of the summer and every man who attended had been looking forward to the occasion for weeks.

About the time the crispness had left the napkins, the Firestone Overseas—some called it "oversize"—Entertainers opened up with a forty-two centimetre entertainment which seemed to include everything modern, from imitations of the Girl with the Worm-Drive Walk to the latest spasm in Ja-da Jazz.

The entertainers were Jimmy Brennen, Eddie Schwerner, Joe McCann, Punk Scull (there are punks), Red Plunkett and Jack Rice, accompanied by Prof. Thompson, box-beater de luxe.

The hegira high-gear on cars of every known degree of superlativeness, from the Philadelphia Automobile Trade Association, Broad and Callowhill Streets, at one in the afternoon and in less time than it would take to grind a valve, were met on the thither side of the Camden ferry by the Camden trade boosters. After a slight hesitation, in which the only untoward incident was a near-collision with a high-powered Sears-Roe-buck, driven by a Person apparently suffering from strabismic-myopia, the caravanserie proceeded with the Camden delegation blazing the trail toward Kugler's Club.

At 2.30 p.m. there were Some Liquid Refreshments. At 3 p.m., not so sharp, there was ball game between, or perhaps among would better express it, the Motor Truck Association and the Automobile Accessories Business Association, at the end of which it was vaguely rumored that some one had won. Before the doubts had all been brushed away, another game happened. This was between the winner of the previous game and the Camden Automobile Trade Association.

Now figure out for yourself who bagged the pennant. Anyhow, it is reported that three cars were sold before the last half of the last—whatever inning that was. At 5.30 there were Other Sports, Indoor and Swinging Door. The Red Dog also ran. At 8.15 the headquarters staff horn honked "fall in," and the homeward run was made reluctantly.

Who was there? What's the use of printing a directory of the Big Four Association.

It surely won't be the Last of the Mohicans.

L. M. Heifner, who is general manager of the Smith-Davis Machinery Co., Market Street, near Twenty-first, will enter the manufacture of farm tractors and passenger cars, having already obtained an option on valuable property in Chester, Pa., for this purpose. This enterprise will be Heifner's private venture and will have no immediate connection with his other business interests.

Jawer's Automobile Accessory House, 600-610 North Broad Street, has just been celebrating its seventh anniversary as a business firm by holding open house for all visitors. Since the three brothers, Samuel, William and Albert, started in business seven years ago, they have grown from a one-store concern to a four-store firm, and in addition they have an uptown branch house, 2725 North Broad Street.

Just released from United States army service, Bruce W. Macdonald, Douglas S. Macdonald and W. W. MacReynolds, president, vice-president and sales manager respectively, of the Mac Tire Co., 218 North Thirteenth Street, are giving their personal attention to their tire business again.

This city had a novel army camp when the engineers and motor transport corps arrived and set up their headquarters at Sixteenth Street and Fairmount Parkway. The camp consisted of 19 army trucks and a section of the army industrial school adopted for training recruits.

A new flying field for civilian and ex-army aviators will be opened at Warminster, near Hatboro, on the Old York Road. It will be conducted by the Aero Club of Pennsylvania.

With the signing of the Eyre Bill, permitting Pennsylvania to construct its own highways, the policy that has prevailed since the Highway Department was established, is radically changed. While the State had been permitted to do repair work on its highways up to the present, it was barred from taking over contracts for new construction. By the terms of the bill, which has just become a law, the Highway Commissioner is authorized to buy all the machinery he may need to build, or rebuild highways; to buy stone quarries and install plants for turning the stone into road material. The state now will be at liberty to sell stone to private contractors. The state now also is permitted to manufacture road material.

Another road bill just signed permits counties to make bond issues and spend

the money on improving state highways.

Still another bill that has become a state law is the Mearkle measure, requiring lights on all vehicles of whatever kind, on public roads, except farm machinery and wagons used for hay and straw, between an hour after sunset and an hour before sunrise. It is the culmination of 20 years of effort on the part of automobile owners and session after session, until now, similar bills have been voted down. Under its provisions, every vehicle, except those mentioned, must display lights "clearly visible for a distance of at least 200 feet from both the front and rear wheels of such vehicles."

The Dithrich bill, limiting the size and weight of motor trucks, in which there is deep interest throughout the state, has been recalled from the Governor's hands for further amendment.

## The Week in Des Moines

DES MOINES, June 21—Directors of the Iowa Motor Trades Bureau will hold a meeting in Des Moines June 25. At this time consideration will be given to organizing the state along district lines rather than with the county unit, as it has been found that in many counties there are not enough eligible members to make an active working body.

The sociability run over the Iowa Parks Highway, which was scheduled to leave Des Moines this week, has been indefinitely postponed on account of the condition of the Iowa roads.

Hanson & Tyler, opening a branch here, have taken temporary quarters at 1725 Grand Avenue. A new building is now under construction for the company at Seventeenth and Grand Avenue, opposite the Ford plant.

Articles of incorporation have been filed by the Des Moines Motor Car Co. J. E. Burmank, J. H. Stubbins and C. F. Reid are the incorporators, and the concern is capitalized at \$20,000.

The Parritt-Denman Co., distributor for the Cleveland tractor, has taken the agency for Oneida trucks.

The Kelly-Springfield Tire Co. has opened a factory branch at 415 Eighth Street. The company plans to build a home for the Des Moines branch within the next year.

The Packard Motor Car Co., of Chicago, has taken over the Packard business at Davenport formerly handled by the Buck Auto Co. Harry Jones has been made manager.

Fred Chapman has announced the construction of a new salesroom at Twelfth and Grand Avenue. The new building will be a two-story brick structure. L. C. Pickering will be manager and the company will handle the entire State for the



Gramm-Bernstein truck, and fourteen counties for All-American trucks.

Earl N. Manbeck, Maxwell distributor in the Des Moines and Cedar Rapids territories, has organized a third company to handle Maxwell cars and trucks at Mason City. With Mr. Manbeck are associated C. O. Jameson, formerly with the Clemens Auto Co., and Earl K. Chaffin, a dealer of Nevada, Iowa.

The Don Sales Co. of Davenport has obtained the agency for the new Cleveland car in the Davenport territory.

T. O. Vold & Son, of Northwood, will handle the Chandler in Worth and Mitchell counties.

The Oldfield Motor Co., Des Moines Chevrolet distributor, has announced its intention to erect a new \$50,000 building at Eleventh and Walnut Streets.

#### Dealers Facing Car Famine

Local dealers, particularly those handling the better known cars, are facing the most serious shortage of cars since the "famine" of 1918. Hardly a dealer is getting enough cars to meet the demand and some are practically without. The Sears Auto Co., Reo, Mitchell, Dodge and Jordan dealers, have not a car on the floor, and yesterday C. O. Hart, one of the managers, was offered \$50 above the list price for his personal car. The Hudson-Jones Co. is taking orders for Hudson and Essex subject to indefinite delivery.

Des Moines dealers are taking vital interest in the special election to be held June 30 to decide whether or not Polk County, of which Des Moines is the county seat, shall issue bonds for paved roads. The Motor Trades Bureau of the Chamber of Commerce has appointed C. F. Claiborne, H. C. Carr and W. T. Wilson to serve on the committee with the representatives of other civic bodies which will have charge of the campaign for passage of the issue. It is proposed to authorize the issuance of a maximum of \$2,000,000 to be used in paving the principal roads of the county.

#### New Home for Two Firms

The Lurie Motor Sales Co., Peerless distributor, and Spry & McArthur, Milburn Electric dealers, have announced the construction of a new two-story brick building on Grand Avenue between Ninth and Tenth Streets, to house the two concerns.

F. L. Lindsley, for a number of years associated with the Mackie Motors Co., has joined the sales department of the Tire Repair & Sales Co.

W. M. Kruger has been made sales manager of the Des Moines Motor Truck Co. Mr. Kruger has been with the truck department of the International Harvester Co.

Carl M. Hedit has opened an accessory store at 1000 Locust Street and has taken the agency for five counties on Case tire and rim tools.

Bernard & Turner, one of the oldest garage firms in Des Moines, have started the construction of a new building at Seventh and Pleasant Streets.

### Hoosier Car Dealers

#### Entertain Shriners

INDIANAPOLIS, June 18—Business in the automobile as well as other lines gave way last week to the pleasant task of extending the glad hand to the thousands of Shriners who flocked to the city for the annual conclave. A majority of the Automobile Association members are Shriners. They placed hundreds of automobiles at the disposal of the visitors, and if any of them walked while here, it was their own fault.

The new building being erected at the State Fair grounds, in which the Indianapolis Automobile Trade Association will house its State Fair Automotive Exhibit, September 1-6, is nearing completion, and Charles Kenneday, secretary of the Indiana State Board of Agriculture, assures John Orman, show manager, that everything will be ready in ample time for the annual exhibition.

"We are arranging a formal dedication of the building," said Orman. "We want Alfred Reeves, John N. Willy and F. W. A. Vesper here at the opening, and we are going to have them if we have to send out and bring them here by force. After showing at the state fair for seven years under a tent, with the holes in the canvas multiplying each year, you can not blame us for deciding to go the limit in staging the show this fall, when we will have one of the finest

buildings ever erected by a state organization. Even with the enormous space that we will have at our disposal it looks now as though we are going to book every inch of it long before the opening day."

The Indiana Motors Company has taken the agency for the Clydesdale truck in Central Indiana. This company also distributes the Columbia Six.

Building permits have been taken out for the erection of another modern automobile salesroom on the Meridian Street automobile row. In the last two months seven permits have been issued for automobile salesrooms.

Suggestion had been made to the city that provision be made in the new Indianapolis traffic ordinance to regulate the weight of trucks and the width of tires on trucks, in order to protect the city streets. Many complaints have been made recently regarding damage done by heavy commercial trucks.

H. L. Pomeroy of the Vauxhall Motor Company will address the Indiana Section, Society of Automotive Engineers, at a dinner to be held here this week.

C. C. Davis will distribute the Davis car, a product of Richmond, Ind., throughout the state.

The Weidely Motor Company has closed a deal for the plant it has been occupying, under lease from a local banking concern, the consideration, it is understood, being \$150,000. The purchase



Free ice water stations were established on prominent downtown corners in Indianapolis by the Indianapolis Automobile Trade Association during the Shriners' Conclave. Photograph shows a bunch of curious live ones from New York, Pennsylvania, Chicago, and other damp but rapidly drying spots carefully investigating before finding out what Hoosier water tastes like.



gives the Weidely Company 160,000 sq. ft. of floor space. The company builds motors for the Cleveland Tractor Co. and several other smaller concerns. Officers for the company are: T. C. Rapp, president; W. A. Umphrey, treasurer; W. H. Fletcher, secretary; and G. A. Weidely, vice-president and engineer.

The Van Briggie Motor Device Co. will begin construction on a new four-story, concrete factory building, July 1. The cost of the ground and building is given as \$88,000. The company manufactures carbureters and shock absorbers.

### The Week in Minneapolis

MINNEAPOLIS, June 19—Crops and business reports received by the Ninth Federal District Bank here are decidedly encouraging to the tractor, truck and automobile trade. Labor conditions are generally normal, with wage adjustments to a large extent in prospect.

The Pence Automobile Co., which distributes Buick cars, will resume its annual trips to the factory at Flint, Mich., for its agents, leaving June 28 by special train for Duluth and thence by chartered lake steamer for Bay City and Buffalo. Return will be July 8. H. E. Pence, head of this company, has bought a tract of land at First Avenue, N. and Eighth Street, across Eighth Street from his garage and service building, which he will devote to truck service.

B. E. Stimson, general representative for the Chevrolet Motor Co. in Minneapolis, has made a radical change which is being watched with interest. He has leased 50 x 138 ft. ground floor space at Nicollet Avenue and Tenth Street in a big office building for display

and retail sales of the Chevrolet. This is on one of the leading women's shopping streets, Mr. Stimson being the only motor car manager who has had the temerity to break in downtown.

Several changes have taken place on the Row this week. The Kelly-Springfield Motor Truck Co. has appointed the Seventh Street Garage, 21 Seventh Street N., as distributor. The Broat Motors Co., distributor in the Northwest for the Stewart truck, 309 Fifth Street S., has opened a retail store at 1517 Hennepin Avenue, where the Columbia car is sold also.

A. C. Templeton, for five years director of the Dodge Bros. dealer organization in the Northwest, has gone into the wholesale and retail automobile business with Bruce S. Middlebrook, real estate and investment broker. They have formed the North States Motors, Inc., 1609 Hennepin Avenue, representing in the Northwest the Stearns-Knight and Auburn Six.

The Northern Electric Co., 21 Sixth Street N., has opened an automobile accessories department. The Peerless Electrical Co., Third Avenue S. and Fifth Street, has added an oil department in its accessories division, handling Gargoyle Mobiloils. The P. W. Miller Co., 735 Andrus Building, has opened an office to place dealers in Minnesota, North Dakota, parts of Montana and Wisconsin for the Electric Auto-Lite Corporation.

The Grant Storage Battery Co. is a new company at 71 Thirteenth Street S. The General Tire & Supply Co., L. T. Ware, manager, has opened a distributing office at 825 Marquette Avenue.

The Minneapolis Auto & Tractor School has opened a three-story building at 226 Second Street N. E. A. Knudtsen and

A. H. Scheldrup, discharged service men, are proprietors.

R. A. Vashro has been appointed secretary for the Minneapolis Garage Owners' Association. He obtained 17 new members in one week after discharge from the Rainbow Division. The membership is now 54.

The Northwest Tractor Trade Association has decided for an independent tractor show next winter. Hitherto the dealers have exhibited at the automobile show. New officers are: President, J. E. Gardner; vice-presidents, N. B. Nelson, E. S. Techtonius; secretary, L. C. Prior; treasurer, H. W. Brown.

### The Week in Boston

BOSTON, June 21—Activity in building is apparent along Commonwealth Avenue again after a lapse of a couple of years. In one spot a big gang of men is placing the foundations for the large structure that is to be erected for the C. S. Henshaw Co., which will be the new home of Dodge Brothers cars. The business is now conducted in the addition which Alvan T. Fuller had made to the Packard Building some few years ago, but the room is needed for the sale of Packard trucks. This will be finished in a few months.

Nearby another crowd is busy laying out the foundations for the structure that is to be used by the Noyes-Buick Co., which will be the wholesale department of the Buick and G. M. C. trucks for New England. This will be one of the largest buildings on the avenue.

A third building, all of which are on the right-hand side of the avenue going out of Boston, is to be the Buick retail home, which John H. Johnson will occupy. Across the street another smaller building is under way for lease to someone, which will probably go to some accessory dealer.

On Boylston Street a new building is being erected for which the owner has had several offers, but as yet has not accepted any, waiting until he completes the structure before signing a lease.

### One for Ford Dealers

In the Fenway a four-story structure is being put up next to the one occupied by Frank E. Wing, the Marmon dealer. This is to be occupied by Lalime & Partridge, who are one of the Ford dealers in Boston.

J. W. Maguire, who owns a large tract on Commonwealth Avenue, has had several splendid offers for it, either to lease or sell it, but he has not decided yet just what he will do about it.

Because of the shortage of buildings for motor purposes it has been a handicap for people who wanted to place agencies here, particularly truck firms. Real estate men had nothing to lease, and they stated that prospective dealers would have to sign a 10 years lease on a new building that would be erected for them on a basis of \$1 per sq. ft. of floor space. This was not encouraging. With older dealers going into new places it will leave vacant others for new firms.



The accompanying illustration is of a photograph taken nineteen years ago in front of Rhode Island's first "Horseless Carriage" factory in Providence and operated by Hughes and Atkin, now known as the Wm. Hughes Co., the oldest exclusive Reo car dealer in New England, having taken on the Reo line some thirteen or fourteen years ago. The "Horseless Carriage" as shown here is one of the eighteen built by Hughes in 1899 and 1900, the first in New England, for which he made nearly all parts by hand. As late as thirteen months ago one of these cars was seen operating on the highways of Rhode Island.



### The Week in Milwaukee

MILWAUKEE, June 23—Instead of growing better, the situation in respect to supply and demand of passenger cars is becoming worse, not because of any decline in the supply, but due to a rapidly increasing demand. While factories have been increasing their production to a greater extent than the most hopeful expected, still the call for cars has grown very much faster in proportion. This was especially true during the past week, when a hot wave, which is wholly unusual for the month of June, made it appear that mid-summer was here.

Display room floors have been bare of cars for weeks. Excepting in a few instances where dealers were fortunate enough to have a semblance of a supply stored away, most of the business of dealers is being done on a future delivery basis. Those who had stocks report them virtually exhausted and their business going to the same basis. There are relatively few dealers in Milwaukee who can turn over a new car to a purchaser on the same day the order is written.

Deliveries seem to be just about trickling in, although the volume is of fairly good proportions, but looks small because of the heavy demand. There is ground for belief that after July 1 deliveries will improve by reason of further increase in output. Nevertheless, numer-

ous dealers on July 1 will have booked orders for everything they can expect to get prior to Oct. 1, or perhaps the end of the year.

Motor truck business shows gradual improvement. Last week's torrid spell, which served to show up the disadvantages under which horses labor, especially at temperatures of 90 to 95°, made many converts to motor truck transportation. In addition, good horses are scarce and the cost of maintenance of animals is very high. Prospective purchasers, of course, are stubborn and a favorite defense against immediate buying argumentation is that truck prices are coming down and it will pay to wait. In fact, all automotive dealers are constantly confronted with the expressed impression that "July 1 is going to mean drastic changes in a great many respects." Right now it is extremely difficult to try to convince those thus impressed that they are assuming a great deal too much.

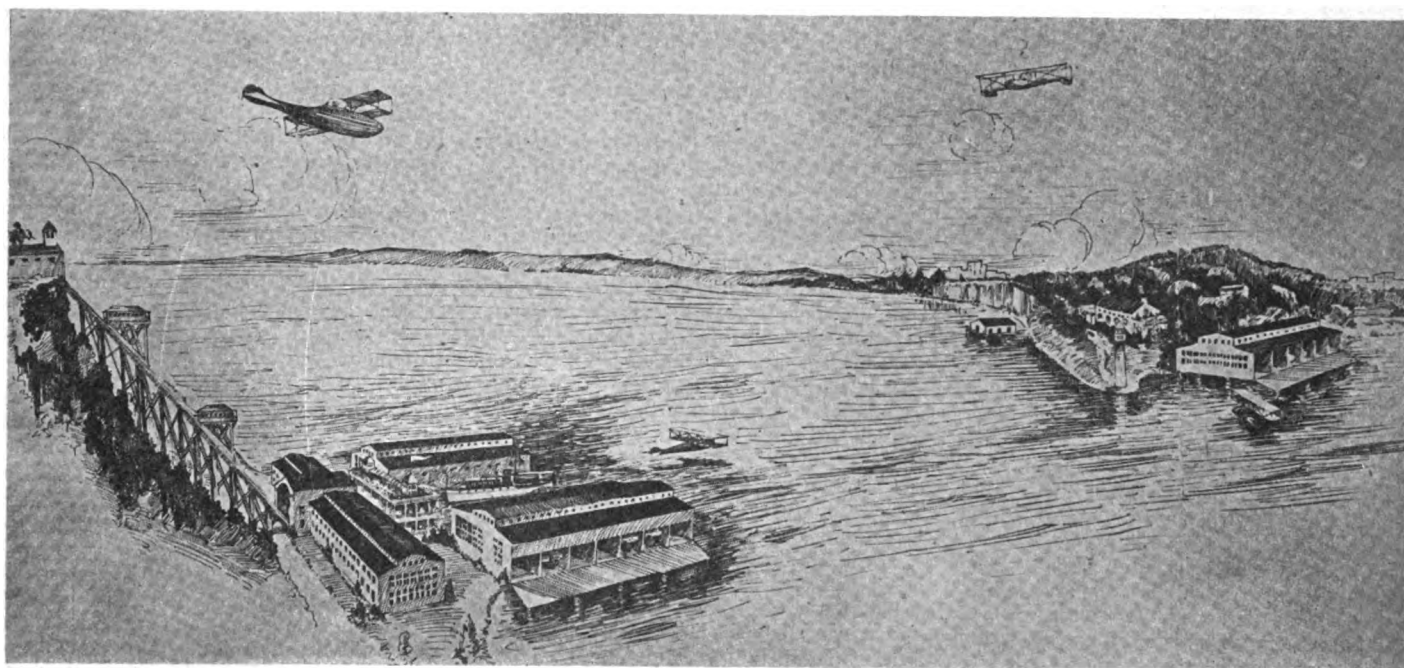
Industrially, the automotive industries are forging ahead rapidly, but soundly. While existing conditions make it almost a fast rule that manufacturers must get up to the last maximum of efficiency out of existing plants and equipment, because of high cost of new buildings and new machinery, the expansion now going on is indicative that the growth is sound, otherwise the construction of additions would not be justified.

The Briggs & Stratton Co., Milwaukee, manufacturing automotive accessories, and, as previously noted, investing \$400,000 to \$500,000 in new buildings and equipment, will pay particular attention to the production of the Smith Motor-Wheel, a gas engined appliance for common bicycles, heretofore made exclusively by the A. O. Smith Corp., Milwaukee.

The tractor trade is progressing with new hopes and new vigor, inducing manufacturers to again put on full steam ahead. A new producing interest has made its appearance in the organization of the Fox River Tractor Co., Appleton, Wis., with a capital stock of \$200,000. The prime movers are Frank and Oscar Saiberlich, who recently disposed of their heavy interests in the Eagle Mfg. Co., Appleton, to develop and make a tractor designed on the basis of their long experience in gas engine and tractor manufacture in the Eagle company. A new plant, 120 x 120 ft., will be erected during the summer. The tractor will sell for \$2,200.

The Waukesha Motor Co., Waukesha, Wis., received a letter from the Wichita Falls (Tex.) Motor Co., telling of a special train loaded with thirty Wichita trucks, equipped with Waukesha motors, being consigned to Central Asia, west of the great Gobi desert. The purchaser, the Turkestan Agricultural Colonization Co., will supplant 4000 camels and 1000

## Plan Hydroplane Garages on Hudson River



NEW YORK may have the country's first commercial service station for hydroairplanes. The project is contained in a plan of I. M. Upperco, president of the Cadillac-Detroit Motor Car Co. and sole owner of the Aero Marine Plane & Motors Co., to erect hangars and launching platforms on the New York and New Jersey shores of the Hudson, the former at Fort Washington

Point, 177th Street, and the latter opposite 181st Street.

Upperco has made proposals to the New York City authorities and to the Palisades Interstate Park Commission for the necessary leases.

In co-operation with other aircraft manufacturers expected to join his project, Upperco contemplates holding demonstrations of flying boats, giving

instruction in aviation and generally enlightening the public on air dynamics at the Hudson River station. He expressed the opinion that it was incumbent upon the metropolis to set an example for the rest of the country in paving the way for development of commercial aero-marine aviation. Foreign as well as American manufacturers, he added, would be invited to participate.



men used for transportation with the fleet of trucks.

This week will be a memorable one for the distributors and dealers of Milwaukee, being the occasion of a sociability tour and romp of the Milwaukee Automobile Dealers', Inc., to Lake Geneva, Wis., and return. The party of 100 or more will leave Tuesday noon and return Thursday evening. The affair will serve to break the monotony of four years of arduous application to duty while the war was raging.

The M. A. D. took an important part in entertaining the "Packard Cruise" on Tuesday, June 17, when from 600 to 700 members of the Packard sales organization from all parts of the world stopped at Milwaukee for a day on an otherwise exclusive water tour on the Great Lakes. Alvan Macauley, president of the Packard company, was a member of the party, all members of which confirmed to their own satisfaction the remarkable tales they previously heard about Milwaukee hospitality and especially its energetic dealers' organization.

The Creek Motor Sales Co., 215 Wisconsin Street, Milwaukee, has become distributor of the Columbia Six in Wisconsin and Upper Michigan, relinquishing its Elgin Six franchise for the same territory.

The Templar has gained representation in Milwaukee and Eastern Wisconsin through the appointment of M. L. Popp, 1344 National Avenue, as district distributor.

The first exclusive trailer salesroom in Wisconsin was opened June 16 at 189 Wisconsin Street, Milwaukee, by William F. Streit, factory distributor of the Highway Trailer Co., Edgerton, Wis.

To gain much-needed service and storage room without erecting a new building, the West Side Buick Co., 2709 Grand Avenue, Milwaukee, is reconstructing the former street railway car station at Twenty-seventh and Chestnut Streets, at a cost of \$25,000, to make it fireproof and suitable for the purposes.

The Olson & Pauly Auto Co., 239 Wisconsin Street, Milwaukee, distributor of the Holmes, has incorporated its business without change of name. The capital stock is \$25,000.

The Wadhams Oil Co., Milwaukee, with branches in many Wisconsin cities, will build a large addition to its branch warehouse and office at Sheboygan.

The Milwaukee postoffice will disperse July 1 with every piece of horse-drawn collection and delivery equipment and become entirely motorized. The fleet will consist of twenty-five 750-lb. cars, six  $\frac{3}{4}$ -ton and five  $\frac{1}{2}$ -ton trucks, all of which have been in use at army cantonments and are being re-bodied to suit the purposes of the mail service. The government has leased a large building as a garage and service station, centrally located and perfectly appointed. All drivers and employees will be taken from the civil service list.

The Milwaukee Tire Dealers' Association is embarking on an extensive co-operative advertising campaign to increase business and to familiarize the public with its official insignia, which

now appears on the front doors and display windows of each member-shop. The insignia is in the form of a casing through which floats a red pennant bearing the words, "Certified Dealer." It will be used on all business literature, stationery, envelopes and other printed matter issued by members. The association now has forty-five members, all legitimate tire dealers of recognized standing.

The Estberg-DeLand Co. of Milwaukee has been organized as a Wisconsin corporation with \$30,000 capital to buy, sell, import and otherwise deal in all kinds of motor cars, motors, engines, parts, etc. The incorporators are L. DeLand and Emil Estberg, one of the pioneers of the Milwaukee and Wisconsin motor car industry. Mr. Estberg is Maxwell distributor, with headquarters at 192-194 Wisconsin Street.

### The Week in New Orleans

NEW ORLEANS, June 23—The New Orleans-Winnipeg Jefferson Highway sociability run will start from New Orleans July 1, headed by Governor R. G. Pleasant and Mrs. Pleasant; Mayor Martin Behrman of New Orleans; Mayor J. M. W. Ford of Shreveport, and Mrs. Ford; Duncan Buie, state highway commissioner, and other state, city and parish officials. The motor-excursionists will return to New Orleans on or about July 20. This is a return visit to repay the call which motorists of Canada paid to New Orleans a few years ago when the route of the Jefferson Highway, "from pine to palm," was selected.

Advices received from the states along the route indicate that the governor of each will personally meet and greet the "sociability runners." Governor Hobby of Texas; Governor Robertson of Oklahoma; Governor Allen of Kansas; and other state executives will go with the runners. Mayor Behrman will carry an official message from New Orleans to the people of Winnipeg, and 264 towns will be visited along the 2300 miles of the Jefferson Highway. Many cities are planning celebrations in honor of the passing through of the sociability run.

Mrs. Emma Bell Stanton, automobile instructor and mechanic to the Red Cross branch in New Orleans, will drive her own car in the run, as representative of the Grunewald interests of New Orleans. The cars will run on railroad schedule in relays.

The Automotive Sales Co., a new firm, has purchased a three-story brick building at Carondelet and St. Joseph Streets, and will occupy the whole establishment, July 1, remodeling being nearly completed. The firm consists of V. L. Caldwell and E. P. Moresi, of Abbeville, La., and R. J. Boudreaux, of Erath, La.

"Mike" Zilberman, one of the best-known dealers in Louisiana, has left on a tour of Chicago, Detroit, Indianapolis and other auto-building centers. Zilberman shipped his touring car to Chicago, and from there will drive to the other cities. He will return about August 1.

Ginder Abbott, president of the Abbott

Automobile Co., is on a ten days' visit to the Packard and Chalmers factories in Detroit and Cleveland.

E. A. O'Rourke, formerly with the O'Rourke Motor Car Co., has become associated with the Joseph Schwartz Company and will have the management of the truck department.

W. P. Parkhouse, president of the Parkhouse Auto Co., has opened a statewide campaign and service policy.

W. L. Snider and H. A. Soulie, proprietors of the Stutz Southern Sales Co., have returned from a visit to Indianapolis, where they attended the race.

James D. Cathey, New Orleans dealer in Nash cars and Federal trucks, has returned from a trip to the Nash factory at Kenosha, Wis., and to his boyhood home in St. Louis.

New model Essex sedans have arrived in the showrooms of H. A. Testard.

L. C. Glenny, president of the New Orleans Automobile Dealers' Association, and distributor of the Buick, has bought a high-powered speedboat, and will be a factor in the motorboat races of the Southern Yacht Club this summer.

The Louisiana State Highway Department accepted bids totalling \$83,023 for good road building, the week ending June 14. Jefferson Davis parish gets 7.5 miles and St. Mary's parish, 1.26 miles. Several bids for other and longer stretches of road were rejected.

The Southern Motor Manufacturers' Association of Houston, maker of Ranger cars, trucks and tractors, has on display at several motion picture houses a film which shows interestingly the work of manufacturing these products. Montagut & Brugier are New Orleans distributors, with showrooms at 507 St. Charles Street.

Variation regardless of supply and demand marked the price of gasoline in Louisiana during the week ending June 19. At the filling stations in New Orleans the price was 25 cents; outside the city, at similar stations, it was 27 cents, while motorboat owners—there being a fleet of nearly 2000 motor workboats in and around New Orleans—paid 27 and 30 cents at the filling stations along the canals, bayous and rivers. The companies selling gasoline would make no statement regarding the variations in prices.

### Mississippi Plans Good Roads

JACKSON, MISS., June 20—Two and one-half million dollars' worth of surplus war material has been allotted to Mississippi by the federal government, and much of this, including tractors, trucks, trench-digging machinery, etc., will be used in the construction of the long mileage of good roads planned.

Claiborne and Leake counties obtained permission of the state highway department, June 14, to issue bonds for the construction of good roads. An important stretch of road from the Copiah County line to Port Gibson is to be built in Claiborne County, while Leake is planning roads north and south and east and west to connect the county seat with Kosciusko, Canton, Philadelphia, Forest and other towns.



## The Week in St. Louis

ST. LOUIS, June 21—The motor truck expedition having sold the truck idea to themselves harder than to anyone else, dealers in St. Louis have tackled the sales problem with renewed vigor. For instance, Charles E. Lightfoot, manager of the General Motors Co. truck branch, sent one of his men over the territory covered by the expedition after it had returned. Result, the sale of two trucks.

The Welling Motor Co. sent two of its men to trail the expedition, remaining half a day behind, and they report closing several agencies. The Welling company handles the All-American truck. A number of other dealers are sending men over the route.

The passenger car demand continues good, there being no let-up in the demand. Dealers are crying out louder than ever for cars.

Capt. Robert E. Lee and his wife are the prize one-steppers of St. Louis. They proved it at the tenth annual meeting of the Motor Accessory Trade Association. It was held Wednesday, and it was ladies' night, more than 100 couples being present. George Schattgen of the Fisk Rubber Co. and his wife were the prize valtzers. W. L. Ferrier, the new president, was installed, and short talks were made by him, John F. Shuford, retiring president; Phil Brockman, president St. Louis Automobile Manufacturers' and Dealers' Association, and J. A. Schlecht, former president, and Harry G. Moock, business manager, National Automobile Dealers' Association.

"Keep your places of business clean, see that your employees are neat, observe how retailers in other lines conduct their business"—this was the advice given to the St. Louis Storage Battery Trade Association at its luncheon meeting last Monday by Harry G. Moock, business manager of the N. A. D. A. He urged that the automotive equipment place be made more inviting for women.

"Criticisms by Willys-Knight Owners" is the title of an attractive booklet gotten out by A. H. Allen, manager of the retail department of the Overland Automobile Co. The book contains reproductions in facsimile of twenty letters from satisfied users of the Willys-Knight, the list including some of the most prominent men in St. Louis. The book is to be sent to prospects and to be used by salesmen.

The Firestone White Truck gave St. Louis its first service in connection with the Ship-by-truck Bureau which the Firestone has established in forty-five cities. This consisted in taking harvest hands from here to Kansas, where they were badly needed. Roy S. Rauschkolb, who came from the factory at Akron to take charge of the bureau, has been conferring with officials of the St. Louis Chamber of Commerce with reference to establishing a central warehouse here for the receipt and delivery of consignments.

The picnic season is now on in full swing. The Mendenhall Motor Co., Ford dealer, and the Moerschel Electric & Auto supply Co. will hold their annual outings tomorrow.

These concerns have added men to their

truck sales staff this week as follows: G. M. C., Warren A. Taussig, who served 17 months in France with a motor truck train; De Luxe Automobile Co., Overland, "Jimmy" Springate, who drove the Oldsmobile truck in the recent tour; Weber Implement & Automobile Co., Maxwell and Armleder, Charles Coultas, who was in the Government wireless service and who drove the Maxwell truck in the tour.

Irwin Bronschwig has resumed his position in the service department of the Newell Motor Car Co., Paige and Stearns distributors, after having been discharged from overseas service in the army.

F. W. A. Vesper, president of the Vesper-Buick Automobile Co. and president of the N. A. D. A., will depart Monday to attend the annual meeting of branch managers and distributors of the Buick at Flint, Mich., beginning Tuesday. Oscar Norris, who was chief clerk in the Vesper-Buick office, has resumed his position after a year's service in London with the Y. M. C. A.

A contract for an aerial ladder motor truck to cost \$14,000, and a double "pumper" motor truck to cost \$12,000 was let this week by the city, through Supply Commissioner Thomas, to the American-La France Fire Apparatus Co. The city intends to purchase another pumper from the La France people.

Z. A. Barker has been appointed manager of the wholesale department of the De Luxe Automobile Co., Oldsmobile distributor, succeeding R. H. Robertson, who has gone to the Minneapolis branch of the Oldsmobile. Barker has been on the road for the De Luxe for two years.

## The Week in Cleveland

CLEVELAND, June 20—The Hawkeye Tire & Rubber Co. has opened a branch for Ohio at 713 St. Clair Avenue, this city, and H. C. Christy, Jr., is in charge. Christy has been identified with the tire industry for nine years, during which time he has served in the wholesale and retail ends.

A six-weeks' course in truck driving will be begun Tuesday evening by the Grant Truck Sales Co. The course is to consist of weekly classes, on six successive Tuesday evenings, beginning next Tuesday. Classes will assemble at eight.

W. L. McLeran, manager of the Grant Truck Sales Co., thus outlined the program:

Tuesday evening: "The Purpose of the School", by McLeran; "The Relation of the Driver to the Truck Owner", by B. L. Williams, truck sales manager of the Grant Motor Car Corp.; "Truck Construction—Assembly of Units and Class of Material Used in Each", by C. N. Mitchell, truck engineer of the Grant corporation; "Heat Treating", by a representative of The Steel Improvement Co.; "The Gas Engine and How It Functions", by I. J. Humphrey, service manager of the Grant Truck Sales Co.

Tuesday, July 1: "Development of Gas Engine and Present Day Idea of Motor Construction as Evidenced by the latest Type of Motors Produced", by Service Manager Humphrey; "Standpoint", by F. D. Hale, foreman of the truck repair department of the Grant Truck Sales Co.

Tuesday, July 8: "Talk on Tires", by a representative of the Firestone Tire & Rubber Co., Akron; "Electrical Equipment on Trucks", by a representative of Willard Storage Battery Co., illustrated by stereopticon; "Generator and Electric Starter and How to Care for Them", by Service Manager Humphrey.

Tuesday, July 15: "Selection of Tires, as to Whether They Should Be Solid or Pneumatic, Size of Tires for the Load to Be Carried, and Proper Care of Tires", by a representative of the Goodyear Tire & Rubber Co.

Tuesday, July 22: "Transmission Clutch and Drive Shaft and Use and Care of Same", by F. D. Hale, Grant Truck Sales repair department.

Tuesday, July 29: "Tires and Preservation of the Same", by a representative of the B. F. Goodrich Rubber Co.

## To Post Ohio Roads

State roads in Ohio are to be numbered and the numerals posted for the convenience of tourists, under a plan announced by the State Highway Department. Danger spots also are to be marked, and several designs have been adopted for designating approaches to schools, dangerous curves and railroad crossings.

## Wheat Tractor Making Good Progress

DAYTON, OHIO, June 22—The Wheat tractor which started from New York just before Memorial day on a trip across the continent, has reached this city. Stops have been made at a number of towns and cities along the way to demonstrate the plow-pulling ability of the machine. The road going has been accomplished by a set of wheels with rubber tires, a higher gear ratio being employed.

## New Denby Truck

DETROIT, June 20—The Denby Motor Truck Co. announces production of Model 25, 2½ to 3 tons, an "in between" size especially adapted to express purposes. It has a 35 hp. motor, 4-speed transmission, taking a maximum reduction of 52 to 1 on low; special frame length and wheelbase and other features for mid-distance hauling.

## Sheepshead Bay Prizes Announced

NEW YORK, June 23—The contest board of the Automobile Association of America announced to-day that the purse for the 100-mile event at Sheepshead Bay, July 4, will be \$100,000. A \$3,000 prize is offered the winner of the special match race.

## Airplane Express Line

CEDAR RAPIDS, IA., June 20—To conduct an airplane passenger and express business from this city to Waterloo and other Iowa communities, the Iowa Aircraft Corp. has been organized by a group of local business men, with \$50,000 capitalization. One plane has been ordered.



## CHANGES in the Trade

Roy S. Davey has been appointed general sales manager of the Bethlehem Motors Corp., Allentown, Pa., to succeed W. S. Stevenson, whose resignation has been accepted, due to ill-health.

C. M. Strieby, advertising manager of the Fulton Motor Truck Co., has organized a sales promotion department which will take care of a system of sales promotion and follow-up to aid the salesmen and to develop the territory. There has also been organized by the Fulton company a statistical and research department. This department has gathered information regarding 1½ to 2-ton hauling costs.

George T. Bryant, sales manager, Hide Leather & Belting Co., Indianapolis, who spent several months in Europe during the first part of this year investigating trade conditions, will make another trip there, sailing July 2.

Charles M. Prendergast, formerly general superintendent of the Briscoe Motor Corp., is now general superintendent of the Auto Body Co., Lansing. He succeeds Alex Urquhart, who resigned after 18 years' service to become superintendent of the Lansing Body Co.

E. H. Beacham, assistant to C. A. Barley, president of the Barley Motor Car Co., Kalamazoo, Mich., has resigned to accept a position with Waldon W. Shaw Co., Chicago, taxicab operator.

C. E. Wilson, formerly of the Westinghouse Electric & Mfg. Co., has been made manager of the motor equipment division of the Remy Electric Co. and will have charge of engineering and sales, with headquarters in Detroit.

Ivan Ornberg, assistant chief engineer of the Hupp Motor Car Corp., Detroit, has gone abroad to study developments in engineering.

W. S. Lang, Jr., & Co., Gainesville, Fla., which for a long time has been the Moon distributor, has changed the style of the firm to Royal Motor Co. and will handle the Moon Motor Car Co.'s product exclusively. B. O. Bishop is manager.

C. H. Becker, who for a short time has been handling the Southeast for the Maxwell, has resigned from the factory and will associate himself with the Atlanta Maxwell dealers.

Byron Newkirk, who for a number of years has been looking after the wholesale business for the Atlanta distributor of the Chalmers, has resigned.

D. D. F. Yard, sales director of the export division of the Pennsylvania Rubber Co., will sail from San Francisco about July 1 for Honolulu, en route to Australia, Straits Settlement, New Zealand, China, Japan, India and South Africa to further the interests of the company. R. W. Palm will sail July 1 for Latin America. This is Mr. Palm's second trip to South America, where the company has built up a flourishing business. The company recently opened an office in the Woolworth Building, New York, for the export department and in the absence of Mr. Yard, F. B. Beck will be in charge.

Ed. Feldhauser, D. B. Cooper and H. C. Hall have been appointed divisional sales

manager, divisional sales supervisor and district sales supervisor, respectively, at Kansas City, Denver and Milwaukee, for the Four Wheel Drive Auto Co. Feldhauser's territory will include Missouri, Oklahoma and Eastern Texas, Cooper's the states west of the Mississippi and Hall's Nebraska and Iowa.

Lynn McNaughton has been appointed sales manager of the Cadillac Motor Car Co., succeeding E. C. Howard, who resigned June 15. McNaughton, whose headquarters will be in Detroit, was promoted from the assistant sales managership. He has been with Cadillac fourteen years.

Hilton W. Soffield has been elected vice-president and general manager of the Commercial Car Unit Co., Philadelphia. He started with the company as service manager in 1917 and was later promoted to district sales manager for New England, then special sales representative for Philadelphia and later distributor for the company in Philadelphia. He has also added the Keystone 2-ton truck to the company's line of Truxton and Unitrux units.

C. S. Coler has been appointed manager of the educational department of the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., succeeding C. R. Dooley, who resigned.



From the Cleveland Tractor Courier.

The farmer's wife gives her spouse a powerful hint about his habit of leaving the farm machinery outside for months in all weather

A. S. Hetzell, manager of the Cleveland branch of the Republic Rubber Corp., has been named district manager at Philadelphia.

F. G. Echols, for many years general manager of the small tools department of the Pratt & Whitney Co. of Hartford, Conn., has been elected vice-president of the Greenfield Tap & Die Corp. of Greenfield, Mass.

C. E. Miley will become vice-president in charge of sales of the National Tire & Rubber Co., East Palestine, Ohio. Through ten years' service as general sales manager of the McGraw Tire & Rubber Co., he has become a widely known figure in the industry.

C. E. Albright has been made Pacific Coast field manager of the Acacon Motor Truck Co. of Detroit.

C. R. Mabley has been appointed Michigan sales manager for the S. K. F. Industries, Inc. He will open headquarters in Detroit.

### More Canadian Motor Users

MONTREAL, June 20—Growth of automobile usage throughout Canada is shown by reports of license issues. In Saskatchewan 40,000 have been issued and applications are still coming in. New Brunswick's car owners have increased 33 per cent, the licenses totaling approximately 8000.

## 107 MILES OF NEW PENNSYLVANIA ROADS

Contract Letting, Exceeding  
\$4,000,000, Set for  
July 8

HARRISBURG, June 19—The Pennsylvania Highway Commission will open bids July 8 for the construction of approximately 107 miles of modern-type pavement, whose estimated cost is \$4,000,000 to \$4,500,000.

Instances are on record, according to the department, where bids have been sought on the grading and drainage of a greater mileage, but no commonwealth has ever asked at one time proposals for so great an undertaking in finished work.

The longest single stretch of the highways to be built is a section of the Lackawanna Trail, in Wyoming and Lackawanna Counties, a section of 13½ miles. The projects will entail establishment of a large number of detours, concerning which the department has established a weekly bulletin service.

### Study Highway Transportation Needs

WASHINGTON, June 22—The highways transport committee of the Council of National Defense has received from many members of Congress assurance of co-operation in its effort to keep in touch with situations throughout the country where adequate transportation facilities for farm and other products are lacking. Other Senators and Representatives have advised the committee that no such difficulty exists in their districts. The committee is investigating the possibility of giving improved highway transportation to sections whose appeals for extensions of railroad lines the Railroad Administration has been unable to meet.

### Willys-Overland Operating Again

TOLEDO, OHIO, June 17—All departments of the Willys-Overland plant are running to-day for the first time since June 3, when serious rioting caused the company to suspend operations. Approximately 4000 men are back at work. However, no cars are being turned out, and it may be two weeks before the first completed machines are coming off the assembly line. In some of the departments almost full crews are on the job, while in others work is being carried on by skeleton organizations, which are gradually being filled up as the men return.

### Flying at Packard Field

DETROIT, June 21—With Lt. Col. J. G. Vincent, formerly an army pilot in charge, flying operations have been begun at the new Packard aviation field, between this city and Mount Clemens. Colonel Vincent flew one of the Packards to and from the Indianapolis races.



## LOUISIANA TO SPEND \$1,250,000 ON ROADS

*Appropriation, Prompted by  
Motorists and Dealers, May  
Reach \$2,000,000*

NEW ORLEANS, June 19—Spurred to action by the Motor League and by the new Bi-State Automobile Dealers' Association, which includes automobile dealers and users in Louisiana and Mississippi, Louisiana is planning a year of highway improvement unparalleled in the "Solid South." Surveys have been made and plans drawn for road work involving approximately \$1,250,000, with tentative plans looking to the investment of \$750,000 more if the Louisiana State Highway Department can find the time and the men to devote to the project.

The undertaking will be financed by means of automobile taxes, parish assessments and federal and state aid, and will compare favorably with similar programs in Northern states.

Owing to the 5,000 miles of navigable waterways which penetrate even the most remote parts of the interior of the state, and on which a fleet of nearly 2000 steam and motor boats operate as freight and passenger carriers, Louisiana has had a road building problem differing from other commonwealths, and has found it difficult to arouse interest in good roads, inasmuch as ample transportation is furnished by these boat lines. Further, more than 12,000 square miles of the most fertile section of the state, from the Mississippi River to the Texas border, and from the "Sugar Bowl" to the Gulf of Mexico, are so largely marsh and alluvial soil that it is next to impossible to construct good roads, the hundreds of thousands of inhabitants being served by the boat lines on canals, rivers, and bayous.

The new good roads campaign, however, backed by some 50,000 automobile owners and dealers, is expected to result in the paralleling of at least some of the canals and rivers by roads constructed from the abundant and cheap supply of clam shells, with which most of this low country is covered. In sections where this already has been done, the motor truck has cut so far under freight costs by boat or rail that the boats have had to go out of business.

A long, narrow road is obviously cheaper than a short, wide one, inasmuch as the main object of these roads is to get from point to point, to bring the producer to the consumer in the shortest possible time at the least cost of transportation. Consequently, this year will see a radical change from the 18 and 20-ft. roads which have eaten up appropriations in Louisiana without getting anywhere, to the 9-ft. road which can be constructed twice as far for the same amount of money as the 20-ft. highway, and one-third farther than the 15-ft. road.

The idea this year is that the cash

must go to the end of the road, and the campaign of education which motorists have been conducting throughout the state for the past three or four years is beginning to bear fruit.

### Ohio Fordson Men to Meet

COLUMBUS, OHIO, June 23—Fordson tractor dealers and salesmen in 72 counties in Ohio have been invited to attend a sales convention to be held in Columbus of Fordsons in the territory, will be the host. One of the principal matters discussed will be the return of the pre-war price of \$750. The sales conference will be held at Indianola Park and more than 300 are expected to attend. A. E. Hilderbrand of Chicago, national tractor demonstration manager, will be the principal speaker.

### 229 Army Trucks for Michigan

LANSING, MICH., June 19—Michigan's allotment of army trucks for use in highway construction totals 229, or nearly three trucks to a county and this number may be increased. Of the trucks, 159 are new; to be shipped from distributing points at Cleveland, Indianapolis and Streeter, Ill. The remaining 70 were used in transport supply work. They will come from Camp Custer and New York City.

### Savold Tire Plans Many Plants

NEW YORK, June 23—The Savold Tire Corp., whose stock has been active for some time on the curb market, has completed or has in process incorporation in twenty-one states, its officers declared here to-day. The concern, which states that it has patented processes for rebuilding tires, will operate factories in all the twenty-one states, it was said at the headquarters here. One of several plants to be opened in New York City will be in operation within a few weeks, the officers stated.

### Iowa Motor Trades Aid Tourists

DES MOINES, June 19—The Motor Trades Bureau of the Des Moines Chamber of Commerce is developing a finely organized tourists bureau. It has arranged with correspondents in twenty Iowa cities to furnish weekly bulletins on the condition of the roads, and in case of heavy rains or other unusual conditions telegraphic reports will be made. The bureau has received many requests for information during the present season and has planned complete tours to the coast for a number of people.

### Commerce Had a Fire

DETROIT, June 20—The Commerce Motor Car Co. had a \$100,000 fire Friday morning, but it was stated to-day that production would not be affected in any way. The flames were confined to the paint department. The loss was fully covered by insurance.

## ARMY DISPOSING OF SURPLUS TRUCKS

*Shipping 100 a Day from Camp  
Holabird to Federal  
Bureaus*

BALTIMORE, June 21—The War Department is shipping trucks at the rate of 100 a day from the Camp Holabird assembling station, in its work of transferring to other government bureaus the surplus vehicles left on its hands by the sudden termination of hostilities. Shipments, by freight and over the highways, will be increased daily, in accordance with the recent approval of the Department of Sales for the transfer of 39,000 machines.

There are 11,000 army vehicles at Camp Holabird—the greatest number at any one station in this country. These comprise 6000 assembled, 4000 securely packed in waterproof crates, and 1000 to be turned into junk.

Six thousand uncrated and assembled trucks stand in the open and are protected against the atmosphere by heavy coatings of grease and oil over all exposed metal parts. None shows any sign of deterioration. The motors are turned over weekly. The 4000 crated vehicles are stacked and covered by a wood roof. Congress failed to provide an appropriation for storage for the trucks, and the sheds were constructed on the initiative and at the expense of the Motor Transport Corps.

One thousand trucks and passenger cars which have been held as unserviceable and which will be sold as such, are also protected from further deterioration by oil and grease over all metal parts.

### To Sell Allens in France

COLUMBUS, OHIO, June 19—Ben C. Herchfield, representative of the Buttersi Syndicate, a large distributor of American-made automobiles in France, has arrived in Columbus to look over the new plant of the Allen Motor Co. A contract has been signed for his organization to distribute Allens in France.

### Dingee Inventor Dead

CHICAGO, June 19—W. W. Dingee, one of the pioneers in the manufacture of threshing machines, is dead here, aged 88. He was connected with the Sawyer Mfg. Co. when the J. I. Case T. H. Co. purchased it in 1878 and was connected with the Case company until he retired from active business in 1906.

### Equipment Jobbers to Meet

NEW ORLEANS, June 23—The quarterly meeting of the Southern Automotive Equipment Jobbers' Association will be held here June 27 and 28. Election of officers will take place and an interesting program, prepared by Col. C. Robt. Churchill, will be discussed.



# How to Run a Motor Truck Tour

**Moock, Who Promoted St. Louis Tour, Tells How to Arrange Similar Enterprises and Urges Them for All Sections**

ST. LOUIS, MO., June 23—Motor truck dealers themselves were "sold" on the motor truck and on truck transportation by the St. Louis expedition, according to Harry G. Moock, business manager of the National Automobile Dealers' Association, instigator of the trip and who accompanied it throughout its itinerary. This, according to Moock, was the greatest thing that came out of the expeditionary force. There were a number of others also that he considers well worth the cost of the sales run.

Thirty-three trucks participated, nearly all of which were heavily laden with varying cargoes and with different kinds of bodies. The trip of 390 miles was started at 7 o'clock Monday morning, June 9, and ended at 6 p. m. Friday, June 13. Every truck that entered made the trip, every town in its itinerary was reached on schedule time, a speed of fifteen miles an hour was attained throughout and the actual running time was about thirty hours.

Moock summarizes the results of the trip as follows:

"It proved to the dealer that the truck he has been selling on his salesroom floor is just as good as he told his customer it was. A lot of dealers didn't know this, feared that it wasn't so, and hoped to sell trucks in spite of this fear that the truck wouldn't hold up.

"It got the competitive truck dealers together and cemented friendships and assured greater co-operation for the solution of common problems.

"The trip sold the truck to the representatives of St. Louis business houses who made the trip.

"The trip sold the City of St. Louis to the farmer who realized that the merchant will extend himself to bring the farmer's merchandise to the farmer's doorstep, if need be, to hold the farmer's trade.

"It showed the farmer the truck can be depended upon as surely as a train can be depended upon. The truck train was not late at a single point.

"It proved to the city merchant that he can rely upon the truck for safe, speedy and complete deliveries.

"It proved that there was a real bond existing between the city and the country, real friendship, for everywhere the truck train went, it not only was met by the mayors and committees of the cities and towns but it was met along the roads and at the cross roads by farmers themselves who had dropped their work on the farm to come and look at this now complete method of transportation.

"Capt. Robert E. Lee, of the St. Louis local association, who had charge of the trip, estimated that 25,000 persons saw the train. He estimated that 10 per cent of that number will be prospective truck buyers.

"The noon and the evening programs brought to the hearers final argument why they should buy motor trucks. It brought prospective purchasers to a realization that they had a keen interest in hard roads. It gave only the message of a Federal Highway Commission, the message contained in the Townsend Bill. We got delegations of bankers and business men at every point to send telegrams to the Congressmen to endorse the Townsend Bill, Senate Bill No. 1309.

"The St. Louis expedition left the city at 6 o'clock Monday morning. Everybody got away on time, due to the arrangements made for just such a purpose. We had every truck assembled Sunday afternoon on the circus lot, Sarah and Pine Streets. They were under guard all Sunday night, tuned up and ready to move Monday morning.

"Some of the things we learned from the trip which will be valuable for other

cities contemplating similar trips are: "A touring car carrying the officials of the trip should travel at least a half day ahead of the train to look after the details that may have been overlooked by the local officials.

"Plenty of time should be given for the preparation of publicity and the newspapers thoroughly supplied with reading material for at least two months before the train starts.

"A strong siren should be placed at the head of the train to warn other vehicles on the road that the train is approaching and give them time to clear for their own benefit.

"The commander of any train should be given, as this train commander was given, complete command over the expedition.

"Sufficient sleeping and adequate eating arrangements be made in advance. We were somewhat crowded at some places. The exact number of persons on the trip should be furnished to each city before the train starts.

"To prevent overcharging, which we encountered in some places, a contract rate be reached between the train and the proprietors of eating houses.

"The advance car should be furnished with toll fees for the whole train in order to prevent delay at toll gates.

"The train should be started, stopped and directed by bugle call, by a bugler at the head of the train.

"Every driver should have an itinerary, map and such other uniform logs and charts as are available to the whole train.

"We carried a gasoline tank supply truck along which proved invaluable. No train should undertake such a trip without such a vehicle.

"The local Chamber of Commerce should send its general manager along, or some other equally important officer. Those trips are right into the heart of a city's natural trade territory.

"No train should be without a truck equipped with a farm lighting plant. One truck so equipped was heavily strung with lights and used at night as the speakers' stand. It also had two powerful searchlights which were used for spot lights in illuminating the area around the truck train when it was parked.

"Moving pictures should be exhibited nightly, showing the difference between good roads and bad roads and such other general propaganda as will be both interesting and instructive.

"But one word more. Every dealer who had a truck entered should have some way of co-ordinating the truck run with the sale. Every prospect should keep a record of his prospects. Preferably through his local dealer. But he should keep it in some way.

"I consider the St. Louis run one of the greatest arguments for truck transportation ever offered to the public. What was done in St. Louis can be done in Kansas City, Indianapolis, Dallas, Denver, Seattle, every such city. Its results will be far reaching and acquaint the dealers themselves with the merchandise they are offering for sale."



THE THORNWOOD GARAGE has opened for business in Thornwood, N. Y., 29 miles from New York City. It has a machine shop, supply department, and is going to sell a car. Adolph Frees and J. Neukam are the proprietors



## WESTON, VETERAN OF TIRES, GOES TO AJAX

*Becomes Vice-President — Is Succeeded in U. S. Tire by Shugart, Also an Old-Timer*

NEW YORK, June 23—Two important personnel changes in the tire industry—the appointment of Joseph C. Weston as vice-president and director of the Ajax Rubber Co., and the designation of George S. Shugart as general manager of the United States Tire Co.—were announced here to-day.

Mr. Shugart succeeds Mr. Weston, who goes to the Ajax company with an experience dating from the early days of the industry. Tire men remember Mr. Weston first as a salesman representing the old Morgan & Wright firm. His success in that capacity led to his appointment as western manager for the United States Tire Co., with headquarters in San Francisco. From that post Mr. Weston was made manager of the central district for the same company, with headquarters in Chicago. From Chicago he was brought to New York and made general sales manager. Recently he was elected to the vice-presidency.

Mr. Shugart, who has been in the U. S. Tire ranks for twenty-three years, goes to his new office from the sales managership of the New York branch, which he assumed after twelve years of similar work with headquarters in Chicago, where he became one of the best known tire men in the Middle West.

Mr. Shugart entered the tire business when the bicycle was at the height of its popularity, as an employee of Morgan & Wright, one of the parties to the U. S. Tire amalgamation. He will be succeeded as New York sales manager by C. J. Welch, manager of the truck tire department. Mr. Welch will also supervise sales of tires to car manufacturers.

### Findeisen & Kropf Becomes Beneke & Kropf

CHICAGO, June 19—The Findeisen & Kropf Mfg. Co. has been re-organized as the Beneke & Kropf Mfg. Co. with O. F. Kropf as president and Henry Beneke as vice-president and treasurer. Mr. Beneke, formerly vice-president of Hibbard, Spencer, Bartlett & Co., purchased the interest of Frederick Findeisen and is devoting all of his time to the active management of this business.

### Briscoe 5000 Behind

JACKSON, MICH., June 18—The Briscoe Motor Corp. will build plant additions which will permit triple production. The present output of the plant is 70 cars daily but with the additional floor space, the capacity will be increased to 250 cars. Construction work will start at once and the additional units will be ready for production in about 7 months. Meanwhile every effort will be made to

double production within the next few weeks. The company is now 5000 orders ahead of production and is putting night shifts at work in an effort to increase its output. The company has 1300 persons on the pay-roll, 300 of whom are women. The company is proposing to go after the truck business and is now getting production on a 1½-ton truck.

### New Trailer Bill in Massachusetts

BOSTON, June 20—The truck and trailer bill, amended to reduce fees considerably from its first draft, was passed by the House, June 12, and sent to the Senate. Fees are fixed as follows: 1 ton or less, \$10; over 1 ton to 2 tons, \$20; over 2 to 3 tons, \$30; over 3 to 4 tons, \$40; over 4 to 5 tons, \$50; over 5 to 6 tons, \$60; over 6 to 7 tons, \$70; over 7 to 8 tons, \$80; over 8 to 9 tons, \$90; any capacity over 9 tons, \$100.

Senator Sawyer gave notice that he would move that the bill be further amended to establish a fee of \$15 for an intermediate class from 1 ton to 1½ tons.

While, as amended, the fees for the larger sizes of trucks are materially reduced, they are still nearly three times the present fees for vehicles of three tons capacity and over.

The Trailer Mfrs. Assn. of America, with headquarters in New York, has declared the schedule of fees, as applied to trailers, unreasonable and prohibitive, and has advocated that a separate and lower schedule of trailer fees be established, as trailers do not weigh as much as trucks of given capacity and do not deliver any tractive effort.

### Rickenbacker Celebration in Los Angeles

LOS ANGELES, June 20—A three-day Rickenbacker celebration will be held here to-morrow, Sunday and Monday, opening on the first day with a large street parade. Sunday, Capt. Rickenbacker will be guest of honor at the Elks Annual Barbecue and will receive a gift from members, and on Monday a reception will be held in his honor in the Shrine Auditorium, when he will be presented with a gift from the people of Southern California.

### 66 Cars Lost in Fire

DELAWARE, OHIO, June 23—In all 66 automobiles were totally destroyed by a fire which consumed the Melville Bros. Garage last week. The garage was full of cars of people attending the annual commencement exercises of the Ohio Wesleyan University. The loss is estimated at close to \$200,000. A few of the cars belong to Columbus residents.

### Allen Raises Capitalization

COLUMBUS, June 23—The Allen Motor Co., which recently removed its plant from Fostoria to Columbus, has filed papers with the secretary of state increasing its authorized capital from \$1,500,000 to \$3,000,000. The larger part of the increase is in common stock which is being sold through Claude Meeker.

## PAIGE PLANNING 25% INCREASE IN OUTPUT

*Buildings Erected for War Work Will Soon Make Possible More Cars and Trucks*

DETROIT, June 19—The Paige-Detroit Motor Car Co. is spending \$400,000 in plant equipment and other improvements which will permit an increase in production facilities of approximately 25 per cent. It applies to both the passenger car and truck divisions of the plant. No new buildings are being built, but the new units completed during the war for war work and containing approximately 66,000 sq. ft. are being utilized. The company expects to have the improvements completed and to be operating on an increased production schedule within 60 days.

The present capacity of the automobile department is 125 cars daily, while the truck department has facilities permitting the manufacture of fifty trucks. The new arrangement will permit the manufacture of 175 passenger cars and seventy-five trucks daily.

The Paige company has been hard hit by a shortage of materials. The lack of certain parts caused production on certain days to drop to a very low point. During the month of May 1500 passenger cars were produced, the daily production being approximately fifty-five cars. In the truck department from three to ten trucks are turned out daily.

### Hanch Goes to Maxwell

DETROIT, June 21—C. C. Hanch, for years treasurer of the Studebaker Corp., has resigned to become general manager of all Maxwell-Chalmers interests. At the outbreak of the war Hanch was made chief of the Automotive Products Section of the War Industries Board. Since the armistice he has been in Europe investigating export conditions for the National Automobile Chamber of Commerce. Prior to joining the Studebaker Corp., in 1915, he was for 19 years treasurer of the Nordyke & Marmon Co. In recent years he was secretary of the National Automobile Chamber of Commerce and is at present a director of that body.

### Columbus Dealers Play

COLUMBUS, OHIO, June 23—The members of the Columbus Automobile Trade Association held their annual outing at Indianola Park, June 18, with a large attendance. All people connected with the automobile industry were invited to attend the picnic. E. S. Jordan, of the Jordan Motor Car Co. of Cleveland, made an address.

### Northwestern Chemical in Canada

MARIETTA, OHIO, June 20—The Northwestern Chemical Co. opened a factory in Montreal, June 1, to take care of its Canadian business.



## KANSAS TRUCK MEN MUST SELL AT ONCE

### *Trucks Must Be Sold Before Wheat Is Ready or Delay of Year or Two May Result*

KANSAS CITY, June 23—The prospect of motorizing Kansas wheat transportation seems to hang on the aggressiveness of merchandising trucks in the next two months.

When the Kansas winter wheat harvest gets under way, there will be frantic cries for motor trucks to move that wheat to elevators, mills and shipping points.

Nobody is worrying much over that approaching problem now, except the truck distributors who have been through the territory and who foresee the dilemma of the Kansas farmer.

Kansas may harvest 250,000,000 bushels of wheat.

That's a terrifying volume of grain to move, even if a year were taken to move it.

But the farmers are not going to take a year to move it. The prospect is that they will want to get the money on it as soon as possible.

It will be a race to see which farmer can get his wheat to the nearest elevator first.

And with this prospect of a transportation emergency, what are the truck dealers doing to prepare? Very little. Not one per cent of the Kansas communities have truck stocks that will meet the local demand. Not more than five per cent of the truck dealers have made any aggressive effort to sell trucks to farmers this year. Not more than ten per cent are going to make any such effort.

From one point of view, the dealers are fully justified in their position. It has been almost impossible to sell trucks to farmers the past year, in some localities; it has been difficult to sell many trucks to farmers in any locality.

The farmers won't be ready to buy trucks until they have harvested and threshed the wheat. Then the farmers will come in and buy trucks—and no selling effort will be necessary.

If the dealer hasn't trucks to meet the demand this year, he can sit still waiting for stocks with which to fill waiting orders.

It really seems that the only way to get trucks into farmers' hands is to wait until the farmer gets ready to buy.

The defect in this plan, however, is that nobody on earth can tell when the farmer is ready to buy, without asking him—trying to sell him.

Meanwhile, until the demand forces dealers to stock trucks, the farmers will continue to use trailers, makeshift trailers, old spring wagons, farm wagons, any old thing with a bed on it, behind passenger cars, for hauling wheat. If weather is favorable, many tractors will be used to haul wagons. And the bulk

will be transported by horse-drawn vehicles, with a lamentable waste of valuable time.

Next year maybe the trailers will be seen behind trucks, the shaky makeshift trucks will be replaced by real ones, and the problem of moving the wheat will be minimized. If weather is bad, and wheat can be moved only slowly this summer and fall, the market for trucks may run into the winter. If the growers get away with it with their present equipment this year, and the early promise for wheat next year is unfavorable, the big Kansas market for trucks may not materialize for three or four years. The solution is to sell trucks now.

### Montreal Trade in New Home

MONTREAL, June 20—The Montreal Automobile Trade Association, which is rapidly increasing its membership under the newly-adopted program of expansion, moved this week from the Windsor Hotel to Room 64, Dandurand Building, thereby securing more commodious and convenient quarters, while a large assembly hall in the same building will be available for meetings.

At a meeting recently of the committee of the automotive equipment subsection an address on organization methods was given by L. C. Honodel, special representative of the United Motors Service, Inc., Detroit.

### California Bought 51,000 Cars

SAN FRANCISCO, June 12—There are 51,143 more motor vehicles registered in California now than at this time a year ago. Figures issued by the Motor Vehicle Department show a net registration of 345,275 and a gross registration of 379,400. The receipts so far this year are \$3,775,227.97.

At a corresponding time last year the net registrations were 295,565, the gross registrations 328,258, and the receipts were \$3,117,825.32.

### Long-Wear Takes Over Quality Production

ELYRIA, OHIO, June 20—The Long-Wear Rubber Co. has taken over the entire production of sales of the Quality Tire & Rubber Co. of Anderson, Ind., makers of Quality cord and fabric tires.

### F. R. Pettit Dead

RACINE WIS., June 20—Frederick R. Pettit, vice-president of the J. I. Case Plow Works, sales agents for Wallis tractors, died June 14, after a week's illness, at the age of 35.

### Stronghold Raises Guarantee

BARBERTON, OHIO, June 23—The Rubber Products Co. has raised the guarantee on Stronghold tires to 7500 miles on Ford sizes and 6000 miles on all other sizes.

## PACKARD MEN GO ON SINGING EXPEDITION

### *And Incidentally They Transact Some Business in Convention Cruise of Great Lakes*

MILWAUKEE, WIS., June 21—A party of 510 officials and members of the international sales organization of the Packard Motor Car Co., Detroit, headed by Alvan Macauley, president of the company, spent Tuesday, June 17, in Milwaukee. It was the only stop made on this year's Packard Cruise. Instead of meeting in convention and conference at the factory, the organization chartered the steamer Noronic for a week's cruise of the Great Lakes. The boat arrived early Tuesday morning and left the same night.

In Milwaukee the party was entertained by the Milwaukee Automobile Dealers', Inc., which formed an escort on a parade of city streets from the steamer dock to the Athletic Club. The procession was led by Ralph De Palma in the Packard 905 aviation-motored racing car, holding the world's speed record. This was brought to Milwaukee on the boat together with the first Packard ever built and the first Packard truck, both being operated on the streets on their own power. The Packard factory band of 40 pieces accompanied the party.

Following a luncheon, the Packard party divided itself into groups. Some visited Milwaukee industrial plants; others played golf, tennis and baseball. The day was given over to fun and frolic as a relief from business concentration at the sessions held aboard ship. The spirit was typified in the following song by 500 voices as the parade moved along the streets:

"Hello, Milwaukee,  
We're mighty glad to meet you!  
Hello, Milwaukee,  
Five hundred strong to greet you.  
We left De-tro-it high and dry  
And now we're here with no one shy:  
We came to see  
What made Milwaukee famous.  
We're wild! We're wild!  
It's up to you to tame us.  
Come down and see us soon some day,  
We'll treat you in a Packard way,  
Hello, Hello, Hello, Milwaukee town."

Henry Lansdale was in charge of the trip for the Packard company. The local reception committee consisted of Jesse A. Smith, George W. Browne, Alfred Reeke and John G. Wollaege, officers of the M. A. D.

### More Room for Hudson

DETROIT, June 20—The Hudson Motor Car Co. has taken out a permit to build a brick and steel frame factory on the north side of Waterloo Street at a cost of \$220,000. The building will be 400 by 210 ft. in size.



## AND NOW EVERYBODY CAN JOIN NEW YORK

*Dealers' Ass'n Revises By-Laws  
—All Trades People May  
Become Members*

NEW YORK, June 23—With the object of admitting to membership all classes of workers in the automobile and allied trades, the Automobile Dealers' Association of New York has amended its by-laws to include honorary, dealers', associate, house and non-resident membership. Invitations have been issued to the trade to help build up the membership—a task undertaken by H. T. Gardner, the new executive secretary, as one of the first projects of his administration.

The membership divisions and their characteristics follow: Honorary, any person who has achieved distinction through service of signal merit to the public or the industry; any firm or corporation selling passenger cars or trucks in New York City; associate, any firm or corporation in a business allied to the automobile industry; house, any person having business connections with a concern holding active or associate membership; non-resident, any automobile firm or representative whose business is located thirty or more miles from the metropolis.

### Willard Dealers Meet

CEDAR RAPIDS, IOWA, June 19—Sixty Willard battery dealers from Iowa held their annual convention here June 10. Paul Lattner, Cedar Rapids dealer, presided, and talks were made by W. W. Wyneker, of Cleveland, vice-president of the Willard Co., Charles Frazzell, Chicago branch manager, and A. J. Knapp, secretary of the Iowa Motor Trades Bureau. The next meeting of the Willard men will be held at Waterloo late in the fall.

### State Tractor School Opens

STARKVILLE, MISS., June 19—The gas engine and tractor school for pupils of the Boys' Working Reserve, at Agricultural College, opened to-day and will continue to July 4. Boys who take this instruction, which is furnished free by the state and federal governments, will be used as instructors at similar schools in agricultural centers throughout Mississippi.

### Kelly Tire to Expand

NEW YORK, June 24—To finance erection of a new plant at Cumberland, Md., the Kelly-Springfield Tire Co. is issuing \$5,800,000 of 8 per cent preferred cumulative stock. The issue will be offered to both common and preferred shareholders at \$100 par and will be underwritten by a syndicate.

With completion of the first unit of the Cumberland plant, according to A.

L. Scheuer, chairman of the board, the company's production will be materially increased over the combined output of the Akron and Wooster, Ohio, and Buffalo, N. Y., factories. The Cumberland plant will have many new labor saving features.

### Stutz Out of Stutz

NEW YORK, June 24—Harry C. Stutz, pioneer in the manufacture of the automobile which bears his name, will retire July 1 as active head of the Stutz Motor Car Co. of America. He will give up both the presidency and general managership, remaining in the organization merely as a member of the board of directors.

In the presidency Stutz will be succeeded by Allen A. Ryan, head of Ryan & Co., bankers, and vice-president of the Stutz concern during the past year. His successor as general manager has not yet been selected.

The reorganization, effected at the recent annual meeting, included the election of Frederick E. Gunnison of the directorate to the vice-presidency and the naming of George F. Lewis as secretary to succeed Kenneth R. Howard. William N. Thompson was re-elected treasurer.

Directors chosen, in addition to Ryan, Stutz, Gunnison and Thompson, were: George H. Saylor, John J. Watson, Jr., and Hicks A. Weatherbee. The last named, the only new member of the board, succeeded Howard, who is connected with the Ryan banking firm.

Stutz, who organized the original Stutz company in Indiana, became head of the Stutz Motor Car Co. of America upon its incorporation in New York in 1916. It is stated that he has other enterprises.

### Uniform Trailer Legislation

NEW YORK, June 24—The Trailer Manufacturers' Association of America has drafted recommendations covering uniform legislation in all states on the use of trailers, submitting the proposals to the committee in Washington which drew up the uniform traffic bill for introduction into state legislatures.

The draft, pointing to the value of trailer usage in reducing highway freight costs, urges lower license fees for trailers than for trucks, owing to their less destructive tractive effort on the roads; repeal of laws prohibiting trailers or more than one trailer to a motor vehicle; changes in state regulations to permit greater gross weights for trucks and semi-trailers than for trailers alone, owing to greater distribution of the weight and to allow greater weights per inch width of tires than in the case of self-propelled vehicles.

### Lane Trucks in New Hands

KALAMAZOO, MICH., June 23—The Kalamazoo Motors Corp. has purchased the assets of the Lane Motor Truck Co. and will continue manufacture of the regular Lane models.

## SERVICE MEN PLAN EDUCATIONAL BODY

*New York Managers Hold Preliminary Meeting and Hope to Establish Society for Study*

NEW YORK, June 23—Thirty service men from metropolitan territory met to-night at the Automobile Club of America to discuss the advisability of forming an organization of service men to advance conditions in service stations. While the beginning of such an endeavor will necessarily be local in its scope, hope was predicted that the movement might become national in character.

Several managers of large service stations foresaw great advantage in an organization of this kind where service men could get together after business hours once in a while and discuss their craft. A committee was appointed to arrange another meeting to which service men will be invited. The committee will arrange a program, and the date, although not settled yet, will be in about two weeks.

The members of the committee are: Roy C. Rognan, Vim, chairman; Ernest V. Derks, Buick; F. W. Fenn, National Automobile Chamber of Commerce; W. M. Wahrenberger, Bronx County Auto Co., Ford; J. F. Gfrorer, Hudson; R. J. Oakes, Haynes. The call for the initial meeting was made by Rognan, who has been studying the situation for some time.

### San Diego Dealers Elect

SAN DIEGO, CAL., June 20—The San Diego Motor Dealers' Association discussed good roads, for which an active program is in progress, and elected the following officers at their annual meeting: Louis C. Maire, president; Edward E. Shaw, vice-president; Wilson S. Smith, treasurer; E. Irwin, secretary. C. W. McCabe, F. B. Naylor, E. G. Davies, Wm. Hibner, and John F. McKnight, directors.

### Foreign Representation for Acme

CADILLAC, MICH., June 23—The Acme Motor Truck Co. will be represented in Denmark, Norway, Sweden and Finland by the Aktieselskabet Autocar Co., Copenhagen, Denmark. Frantz Nehammer is president of the new company. Gmo. Verduzco & Co., Avenida Juarez, is the Mexican representative for the company.

### Standard Representative Goes Abroad

CLEVELAND, June 21 — Dan C. Swander, sales director of the Standard Parts Co., sailed from New York, June 5, to carry on a campaign for foreign trade for his company. He will study conditions as to present and probable requirements, particularly in the motor car, truck, trailer and tractor fields. He expects to be absent until August.



## COMING EVENTS

### Races, Contests and Tours

Yakima, Wash.	July 25-28	Fifth Annual, Washington Automobile Chamber of Commerce.
Atlantic City, N. J.	July 4	Airplane race, Aeronautic Convention.
Tacoma, Wash.	July 4	Speedway.
Hohokus, N. J.	July 4	Dirt track event.
Cincinnati, O.	July 5	Speedway.
Uniontown, Pa.	July 19	Mid-summer Meet, Speedway.
Sheepshead Bay, N. Y.	July 26	Speedway.
*Middletown, N. Y.	Aug. 15	Dirt track event.
*Elgin, Ill.	Aug. 22-23	Road race.
*Sheepshead Bay, N. Y.	Aug. 23	Speedway.
*Uniontown, Pa.	Sept. 1	Speedway.
*Sheepshead Bay, N. Y.	Sept. 20	Speedway.
*Allentown, Pa.	Sept. 27	Dirt track event.
*Cincinnati, O.	Oct. 1	Speedway.
*Trenton, N. J.	Oct. 4	Dirt track event.
*Danbury, Conn.	Oct. 11	Dirt track event.
Milwaukee, Wis.	June 24-26	First Sociability Tour and Outing, Milwaukee to Lake Geneva, Milwaukee Automobile Dealers.

\*Tentative dates.

### Meetings

Ottawa Beach, Mich.	June 23-28	Summer Meeting, S. A. E.
Philadelphia, Pa.	Sept. 22-24	Annual Convention, National Association of Purchasing Agents, Bellevue-Stratford.
Atlantic City, N. J.	Oct. 14-17	Twenty-fifth Annual Convention, Marlborough-Blenheim, National Hardware Association of the United States.

### Foreign Shows

Paris, France	Oct. 15	Grand Palais—International Automobile Manufacturer's Congress.
London, Eng.	Nov. 7-16	Olympia Exhibition, Society of Motor Manufacturers & Trades.

### Tractor Demonstrations

Wichita, Kan.	July 14-19	Automotive Committee of National Implement Assn.
Columbus, O.	July 28-29	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Piqua, O.	Aug. 1-2	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Fostoria, O.	Aug. 6-7	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Akron, O.	Aug. 12-13	In charge of Prof. H. C. Ramsower, head of Agricultural Engineering Dept. of Ohio State University.
Aberdeen, S. D.	Aug. 18-22	Sectional Tractor Demonstration.
Ottawa, Ont., Canada	October	Inter-Provincial Plowing Match and Tractor Demonstration.

### Shows

Greenville, S. C.	July 14-19	Agricultural Implement & Tractor Exposition, F. M. Burnett, Manager.
Greenville, S. C.	July 14-19	Agricultural Implements and Tractors, F. M. Burnett, General Manager.
Minnesota	Aug. 30-Sept. 6	State Fair.
Indianapolis, Ind.	Sept. 1-6	State Fair, Cars and Accessories, Indianapolis Automobile Trade Assn., John B. Orman, Manager.
Cincinnati, O.	Sept. 13-20	Ninth Annual, Music Hall, Cincinnati Automobile Dealers' Assn., H. K. Shockley, Manager.
Springfield, Mass.	Sept. 15-20	Eastern States Exposition, J. O. Simpson, General Manager.

### 1920 Shows

New York, N. Y.	Jan. 3-10	Grand Central Palace, National Automobile Chamber of Commerce, S. A. Miles, Manager.
Chicago, Ill.	Jan. 24-31	Coliseum, Cars: Drexel Pavilion; Trucks, National Automobile Chamber of Commerce, S. A. Miles, Manager.
Kansas City, Mo.	Feb.	Fifth Annual, Kansas City Tractor Club, Guy H. Hall, Manager.

#### Motor Buses for Detroit

DETROIT, June 19—A fleet of 100 double-deck motor buses, expected to contribute toward the solution of Detroit's transportation problem, will be in operation within a few weeks. The Detroit Motorbus Co., capitalized at \$1,500,000, has been organized to launch the innovation.

#### No Cars to Army Officers

WASHINGTON, June 20—No passenger cars will be sold from the War Department supply to Army officers as a result of a ruling made here recently following requests of officers who attempted to purchase some of the non-standard cars owned by the War Department. The latter ruled against such sales.

#### Des Moines Fall Fair Show

DES MOINES, June 20—Although the Iowa State Fair is more than two months away all the space for the annual early fall show held in connection with the fair has been sold. The fair show this year will be held in Machinery Hall, and more than 40,000 sq. ft. of space is available. In former years it has been necessary to house the trucks and passenger cars in separate buildings, but this year trucks, tractors and passenger cars will be under one roof. From the very nature of the attendance particular attention will be paid to tractors. C. G. Van Vliet and Dean Schooler, managers of the Des Moines show, will handle the show for the fair management and it has the hearty support of the Des Moines Automobile Dealers' Association.

#### Many Tractors in Canadian West

WINNIPEG, MAN., June 20—Keeping pace with the development of Western Canada's vast agricultural section, employment of motor tractors has reached a total of almost 20,000 in the provinces of Saskatchewan, Manitoba and Alberta. Since the first practical tractor came in the Canadian field in 1904, increase in the use of the machines has been rapid, the number in service now being 11,105 in Saskatchewan, 3655 in Manitoba and 5017 in Alberta.

As an indication of the opportunity for sales it is stated that in the three provinces there is one tractor to 8.94 farms.

#### Keystone Tires Now Guaranteed 6000 Miles

NEW YORK, June 20—Keystone tires will hereafter be guaranteed for 6000 miles. This larger guarantee is now given in lieu of the former guarantee of 4000 miles. The tires, themselves, have not been changed.

#### NEW YORK STOCK EXCHANGE CLOSING QUOTATIONS JUNE 21, 1919

	Bid	Asked
Chandler Motor Car	207	208
General Motors, com.	232½	233½
General Motors, pfd.	93	93½
General Motors, deb.	90	90½
Maxwell Motor, com.	48½	49
Maxwell Motors, 1st pfd.	77½	77½
Maxwell Motor, 2d pfd.	39	39½
Pierce-Arrow, com.	61½	62
Pierce-Arrow, pfd.	107	107½
Saxon Motor Car	11½	11½
Studebaker, com.	106½	107
Studebaker, pfd.	99½	100
Stutz Motor Car	73½	74
White Motor	57	57½
Willys-Overland, com.	36½	36½
Willys-Overland, pfd.	94	95
Fisher Body, com.	87	90
Fisher Body, pfd.	100	102
Goodrich, B. F. Co., com.	79½	79½
Goodrich, B. F. Co., pfd.	104½	106
Kelly-Springfield Tire, com.	125	126
Kelly-Springfield Tire, pfd.	98½	100
Kelsey Wheel, com.	53	55
Kelsey Wheel, pfd.	100	101
Lee Rubber & Tire	33½	33½
Stewart Warner Speedometer	94	99
Stromberg Carburetor	57	58
U. S. Rubber, com.	125½	126
U. S. Rubber, pfd.	115½	115½



# MOTOR WORLD GUIDE

## Passenger Cars

## Passenger Cars

Model	Engine	Ignition	Starting Lighting	WB	Tires	Rims	Pass.	5- Pass.	7- Pass.	Sedan
ALLEN Series 41	4-3½ x 5	Conn	A-Lite	112	32 x 3½	SS	11075	1075	1075	1060
AMERICAN B	6-3½ x 5	A-Kent	West	122	32 x 4	SS	11835	1765	1865	1865
AMERICAN BEAUTY	6-3½ x 5	G&D	G&D	121	33 x 4½	SS	2000	2000	2000	2000
ANDERSON 400-A-E	6-3½ x 4	Conn	Wetha	120	33 x 4	SS	1675	1750	2550	2550
ANNIVERSARY	8-3½ x 5	Remy	Bijur	130	34 x 4½	SS	14000	4000	4000	4000
APPERSON 6-20	8-3½ x 5	Remy	Bijur	130	34 x 4½	SS	2685	1575	2625	3700
AUBURN 6-30-H-K	6-3½ x 4	Remy	Remy	120	33 x 4	SS	11565	1565	1565	1565
BELL	4-3½ x 4	A-Kent	Dyneto	114	31 x 4	QD	1145	1145	1145	1145
BIDDLE H	4-3½ x 5	Elsmann G & D	Wetha	125	35 x 4½	SS	2100	2100	2100	2100
BRISCOE B-4-20	4-3½ x 5	Conn	A-Lite	104	30 x 3½	C	885	885	885	885
BUICK H-6-44-47	6-3½ x 4	Delco	Delco	118	33 x 4	SS	1495	1495	2195	2195
H-6-49-50	6-3½ x 4	Delco	Delco	124	34 x 4½	SS	1785	2555	2555	2555
CADILLAC 57	8-3½ x 5	Delco	Delco	125	35 x 5	SS	3220	3220	4090	4090
OASE U	6-3½ x 5	Wetha	Wetha	125	35 x 4½	SS	2100	2100	2100	2100
OHALMERS 6-30	6-3½ x 4	Remy	A-Lite	117	32 x 4	SS	1565	1565	1615	1615
CHANDLER	6-3½ x 5	Boech	Wetha	123	33 x 4	SS	11795	1795	1795	1795
CHEVROLET 490	4-3½ x 4	Remy	A-Lite	102	30 x 3½	C	715	735	1185	1185
FB 4-3½ x 5	51 Remy	A-Lite	A-Lite	110	31 x 4	SS	1110	1135	1685	1685
D	8-3½ x 4	Remy	A-Lite	120	34 x 4	SS	1585	1585	1585	1585
COLE 870	8-3½ x 4	Delco	Delco	127	33 x 5	SS	2595	2595	3995	3995
COLUMBIA D-C&CS	6-3½ x 4	A-Kent	W. Lant	115	32 x 4	SS	11745	1600	2445	2445
COMET C-51	3½ x 5	Delco	Dyneto	125	33 x 4	SS	1685	1685	1685	1685
GROW-ELKHART CE-36	4-3½ x 5	Conn	Dyneto	115	32 x 3½	SS	1095	1095	1155	1445
CE-46	6-3½ x 5	Conn	Dyneto	116	33 x 4	SS	1295	1295	1355	1355
GUNNINGHAM V-3	8-3½ x 5	Delco	Wetha	132	35 x 5	SS	14350	4750	4350	4350
DANIELS E	8-3½ x 5	Wetha	Wetha	127	34 x 4½	QDR	3750	3750	3750	5500
DAVIS 51-54	6-3½ x 4	Delco	Delco	120	33 x 4	SS	11750	1995	2395	2395
DISPATCH G	4-3½ x 5	Boech	USL	120	34 x 4	SS	11250	11290	11290	11290
DIXIE FLYER H-8-50	4-3½ x 5	Conn	Dyneto	112	33 x 4	SS	1365	1365	1365	1365
DODGE BROTHERS 4-3½ x 4	4-3½ x 4	Ova	N.E.	114	32 x 3½	SS	1065	1065	1760	1760
DORRIS 6-40	6-3½ x 5	Boech	Wetha	122	35 x 5	SS	3750	3750	4915	4915
DORT 11	4-3½ x 5	Conn	Wetha	104	30 x 3½	QD	925	925	1355	1355
ELGAR D.F.	4-3½ x 5	A-Kent	Dyneto	116	32 x 3½	SS	1175	1175	1725	1725
ELGIN H	6-3½ x 4	Wagner	Wagner	118	33 x 4	SS	1395	1395	1950	1950
ESSEX A	4-3½ x 5	Delco	D	104	32 x 4	SS	1395	1395	2250	2250
FORD T	4-3½ x 4	Ova	...	100	30 x 3½	C	800	535	775	775
FRANKLIN 9B	6-3½ x 4	A-Kent	Dyneto	115	33 x 4½	SS	2400	2450	2450	3350
GRANT G	6-3½ x 4	Remy	Wagner	114	32 x 3½	SS	1120	1120	1645	1645
HANSON	6-3½ x 4	A-Lite	A-Lite	119	32 x 4	SS	1685	1685	1685	1685
HARBOUN A-1	4-3½ x 5	A-Kent	Remy	106	30 x 3½	...	1095	995	...	...
HAYNES 45	6-3½ x 5	Remy	L-N	127	34 x 4½	SS	12465	2465	3350	3350
46	12-3½ x 5	Delco	L-N	127	34 x 4½	SS	12550	3250	4000	4000
HOLLIER 208	6-3½ x 4	Remy	Spitdorf	114	32 x 4	SS	1785	1785	1785	1785
HOLMES	6-3½ x 4	Elsmann	Dyneto	126	34 x 4½	SS	2900	3900	3900	3900
HUDSON Super-6	6-3½ x 5	Delco	Delco	125	35 x 4½	SS	12075	1975	2775	2775
HUPMOBILE R	4-3½ x 5	A-Kent	Wetha	112	32 x 4	SS	1335	1335	2135	2135
JONES 28	6-3½ x 5	Remy	Wetha	126	34 x 4	SS	2100	2250	2100	2100
JORDAN J-40	6-3½ x 5	Delco	Bijur	127	32 x 4½	SS	2475	2475	3500	3500
KING G	8-3 x 5	A-Kent	Bijur	120	34 x 4	SS	2550	2250	2150	3100
KISSEL KAR Custom Built	6-3½ x 5	Remy	Remy	124	32 x 4½	SS	1865	1865	1865	2590
KLING KAR 6-42-H	6-3½ x 4	Conn	Wetha	121	33 x 4	...	1865	1865	1865	2590
LEXINGTON R-19	6-3½ x 4	Conn	Wetha	122	34 x 4	SS	1570	1720	1570	2640
LIBERTY 10-B	6-3½ x 4	A-Kent	Wagner	115	32 x 4	SS	1570	1720	1570	2640
LOCOMOBILE 48	6-4½ x 5	Berling	Wetha	142	35 x 5	QD	16700	6600	6600	...
MADISON	6-3½ x 5	Remy	Remy	115	33 x 4	SS	1550	1550	1550	1550
MAIBOHM B	6-3½ x 4	A-Kent	Wagner	116	32 x 3½	SS	1290	1290	1890	1890
MARMON 34	6-3½ x 5	Boech	Bijur	136	32 x 4½	QD	1950	3900	3950	5750
MAXWELL 25	4-3½ x 4	A-Kent	Stumms	109	30 x 3½	C	895	895	1565	1565
MCFARLAN	6-4½ x 5	Boech	Wetha	136	35 x 5	QD	4300	4500	4300	5600
MERCER Series 4	4-3½ x 5	Berling	Wetha	132	33 x 4½	SS	4350	4500	4500	...
MITCHELL E-40	6-3½ x 5	Remy	Remy	120	33 x 4	SS	11475	1475	2175	2175
E-42	6-3½ x 5	Remy	Remy	127	34 x 4	SS	1675	1675	1675	1675
MOULINE-KNIGHT L	4-4 x 6	Conn	A-Lite	118	34 x 4	SS	2000	2000	2600	2600
MONITOR G	6-3½ x 4	Dyneto	A-Lite	117	32 x 4	SS	1475	11475	11475	11475
MONROE MOON	6-3½ x 4	Delco	Delco	118	32 x 4	SS	1685	1685	3500	3500
6-46-19	6-3½ x 5	Conn	A-Lite	125	35 x 4½	SS	2500	2500	3250	3250
MOORE	6-3½ x 4	Conn	A-Lite	106	30 x 3½	...	895	895	895	895
MURRAY	8-3½ x 5	Dixie	Wetha	126	34 x 4½	...	2800	2800	2800	2800
NASH 683	6-3½ x 5	Delco	Delco	127	34 x 4½	SS	1640	1640	1640	1640
681-4	6-3½ x 5	Delco	Delco	121	34 x 4½	SS	1160	1400	1160	2250
NATIONAL	6-3½ x 5	Delco	Wetha	126	34 x 4½	QDR	12450	1450	3120	3120
Twelve	12-3½ x 4	Delco	Bijur	126	34 x 4½	QDR	12650	3050	3720	3720
NELSON	4-3½ x 4	Boech	U.S.L.	104	32 x 4	SS	1200	11400	1800	1800
NORWALK	4-3½ x 5	Delco	Delco	117	32 x 3½	SS	1165	1165	1165	1165

ABBREVIATIONS: "A-Lite" - Automatic Light; "Conn" - Conventional; "G & D" - Gray & Davis; "Elsmann" - Elsmann; "L-N" - Leone-Neville; "Y.E." - North-East; "Wetha" - Westinghouse; "W. Lant" - Ward Leonard; "SS" - Straight Side; "QD" - Quick Detachable; "C" - Chain; "E" - Electric; "H" - Hydraulic; "K" - Kick; "L" - Lever; "M" - Manual; "N" - Normal; "P" - Power; "R" - Remote; "S" - Self; "T" - Tension; "U.S.L." - United States Light; "V" - Valve; "W" - Water; "X" - Extra; "Y" - Year; "Z" - Zone.



# Trucks

[illegible]



[illegible]

**Final Drive:** W—Worm, I—Internal-Gear, C—Chains, D—Double Reduction, B—Bevel, 4—Four-Wheel, E—External Gear.

## MERCHANDISING SPECIFICATIONS

THE tables which appear on these pages have been prepared with the thought of assisting the salesman in the merchandising of passenger cars and commercial vehicles. The data have been limited to those facts which the average salesman finds necessary for comparative purposes and as sales ammunition.

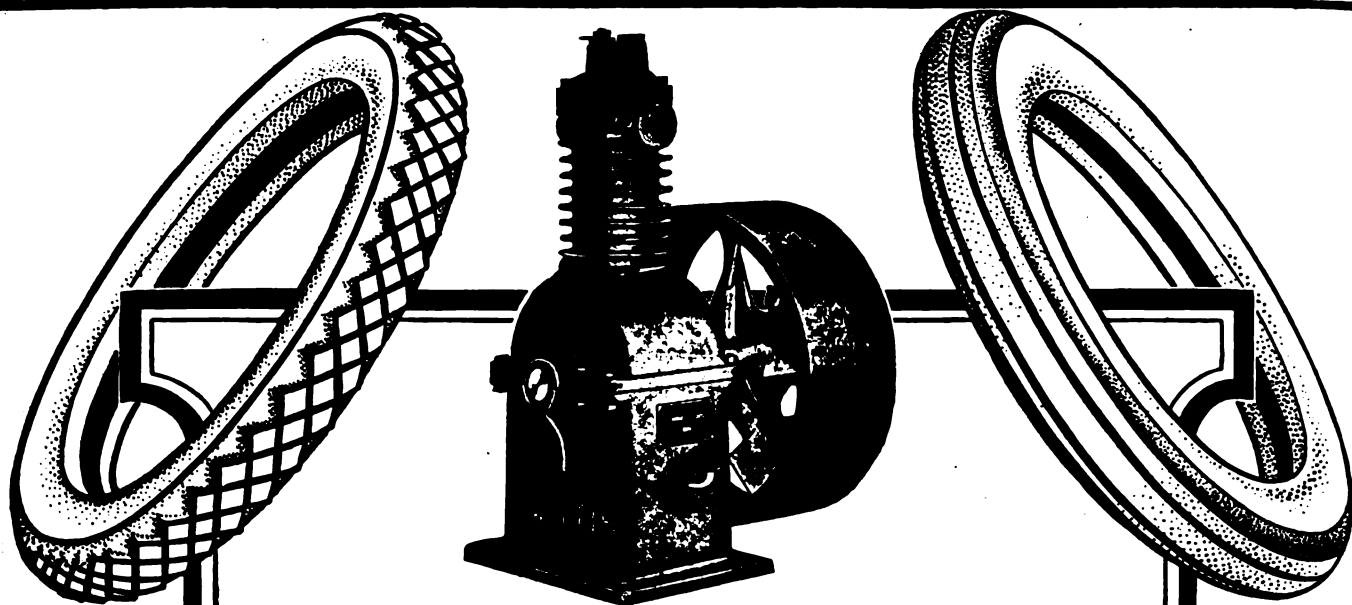
The tables will be corrected and revised down to date every week.

They will be supplemented by others from week to week, intended solely for the garageman and repairman who has the maintenance of passenger cars and commercial vehicles as his work.



Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity	Trade Name	Rating	Weight	Price	Traction Type	No. of Wheels or Crawlers	Engine Make	Cylinder Number	Bore and Stroke	Fuel	Normal Plov Capacity
Alis-Chalmers	6-12	2,300		W	2	LeRoi	4	4 1/2 x 4	G or K	1	Farquhar	15-25	6,300		W	3	Buda	4	4 1/2 x 6	G, K or D	3-4
Alis-Chalmers	10-18	4,800		W	3	Ow	4	4 1/2 x 6	G or K	2-3	Farquhar	18-35	16,000		W	4	Ow	4	4 1/2 x 8	G or K	4-5
Alis-Chalmers	18-30	6,300		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Farquhar	25-50	19,000		W	4	Ow	4	4 1/2 x 8	G or K	6-7
Allwork	14-28	4,800		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Fitch	20-35	6,800	\$2,500	W	4	Climax	4	4 1/2 x 6	G or K	4
American	15-30	4,975	\$1,995	W	4	Beaver	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	6,800		W	4	Ow	4	4 1/2 x 6	G or K	4
Appleton	12-20	4,900		W	4	Buda	4	4 1/2 x 6	G or K	2-3	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	4-6
Atlas	16-25	5,400	1,750	W	3	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	4-6
Aultman-Taylor	15-30	7,500		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	4-6
Aultman-Taylor	22-45	12,500		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	4-6
Aultman-Taylor	30-60	23,000		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Flour City	20-35	10,000		W	4	Ow	4	4 1/2 x 6	G or K	4-6
Austin	5-10	750		W & C	2	LeRoi	4	4 1/2 x 4	G or K	1	Frank	12-20	2,700		W	4	Gray	4	4 1/2 x 6	G or K	2
Austin	12-20	3,000		W & C	2	LeRoi	4	4 1/2 x 4	G or K	1	Frank	12-25	3,500		W	4	Gray	4	4 1/2 x 6	G or K	2
Austin	15-30	4,500		W & C	2	LeRoi	4	4 1/2 x 4	G or K	1	Frank	12-25	3,500		W	4	Gray	4	4 1/2 x 6	G or K	2
Austin	21-40	5,500		W & C	2	LeRoi	4	4 1/2 x 4	G or K	1	Fulton	12-25	2,500	1,275	W	3	Waukesha	4	4 1/2 x 6	G or K	2
Avery B.	5-10	2,150		W	2	Automatic	4	4 1/2 x 4	G or K	1	Giant	30-60	24,000		W	4	Ow	4	4 1/2 x 6	G or K	10
Avery B.	5-10	3,050		W	2	Automatic	4	4 1/2 x 4	G or K	1	Giant	30-60	24,000		W	4	Ow	4	4 1/2 x 6	G or K	10
Avery Cultivtr.	8-16	4,900		W	2	Ow	4	4 1/2 x 4	G or K	1	Gle	12-25	6,800	5,000	W	4	Waukesha	4	4 1/2 x 6	G or K	3
Avery	12-25	7,500		W	4	Ow	4	4 1/2 x 4	G or K	2	Go F.	12-25	6,800	1,375	W	4	Waukesha	4	4 1/2 x 6	G or K	3
Avery	14-28	6,800		W	4	Ow	4	4 1/2 x 4	G or K	3-4	Go G.	14-28	4,250	1,458	W	4	Waukesha	4	4 1/2 x 6	G or K	3-4
Avery	18-36	9,250		W	4	Ow	4	4 1/2 x 4	G or K	4-5	Gray	18-36	6,060	2,250	Dr	3	Waukesha	4	4 1/2 x 6	G or K	4
Avery	25-50	12,500		W	4	Ow	4	4 1/2 x 4	G or K	4-5	Hackney	12-20	2,800		W	4	Field	4	4 1/2 x 6	G or K	2
Avery	40-80	22,000		W	4	Ow	4	4 1/2 x 4	G or K	4-5	Hackney	15-30	7,400		W	4	Climax	4	4 1/2 x 6	G or K	2
Bates Steel Oil	15-25	4,000		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Bates Steel Oil	15-12	4,500		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Bean Track Pul	6-10	3,100		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Beeman	11-4	285		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Beltrair	12-20	4,500		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Boring	15-30	6,900		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Bores	20-40	7,600		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Bores	20-40	7,600		W	4	Waukesha	4	4 1/2 x 6	G or K	3-4	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Brilliant	12-24	5,000		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Bull	12-24	5,000		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Capital	15-36	6,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Capital	15-36	6,000		W	4	Ow	4	4 1/2 x 6	G or K	3-4	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2 x 4	G or K	1	Hart-Parr	15-30	5,158	1,395	W	4	Ow	4	4 1/2 x 6	G or K	2
Case	10-20	5,050		W	2	Ow	4	4 1/2													





## Clean Air Conserves Tires

**M**OTORISTS know that the average air compressor forces oil through the air line. They know that oil rots tires and they are calling for CURTIS AIR—FREE FROM OIL, because it helps them get greater mileage and cuts down expenses—big items in these days when tire prices are steadily advancing.

## CURTIS AIR—FREE FROM OIL

Do as other progressive Garages, Repair Shops and Service Stations are doing—install a Curtis Air Compressor—furnish your patrons with clean "CURTIS AIR—FREE FROM OIL." The Curtis Sign above your door inspires confidence and brings you additional business.

Curtis Compressors are made in several sizes and combinations to meet the requirements of every business. Ask your jobber or write us for full information and prices.



Five Sizes of Compressors and Tanks

### CURTIS PNEUMATIC MACHINERY CO.

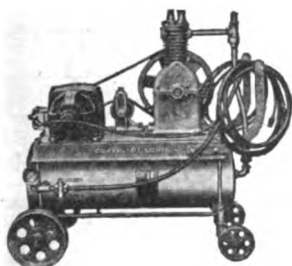
1546 Kienlen Avenue

St. Louis, Mo.

Branch Office:

531-B Hudson Terminal, New York City

Five Sizes—Stationary or Portable



The Curtis Sign is 10x14 inches—baked enamel on steel. Furnished FREE with every CURTIS Garage Air Compressor—cannot be had in any other way.

Curtis Pneumatic Machinery Co.  
1546 Kienlen Ave.  
St. Louis, Mo.

Gentlemen:  
Please send me full details on Curtis Air Compressors—your proposition and low prices.

Name .....

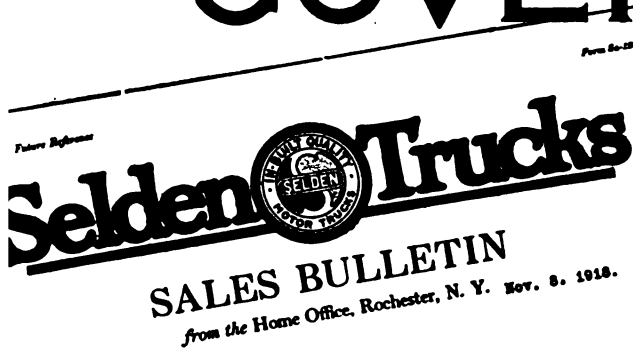
Address .....

Jobber's Name .....

Address .....



# PIERCE GOVERNORS



a. 117

TO ALL SELDEN REPRESENTATIVES:

SUBJECT: DON'T TAMPER WITH THE GOVERNOR

Don't tamper with the governor on your Selden Truck, nor allow Selden owners in your territory to do so, if you can possibly prevent. For if you do you are only borrowing trouble and expense.

No machine can work at its maximum capacity at all times and stand up under the strain. Such service will in a comparatively short time destroy the most substantial power plant.

Advise each and every Selden owner to leave the governor sealed and set and he will increase the life of his motor 400 percent, avoid accidents, reduce his repair costs, increase his tire mileage and save his pocket-book.

Accidents, burnt out bearings, slashed tires, motor trouble, broken springs, etc., usually result from speeding. The governors on Selden Trucks are set to furnish ample speed for commercial work, but do not permit dangerous speed, resulting in the above mentioned troubles.

Read carefully the enclosed booklet and become thoroughly familiar with the construction and care of the Pierce Governor, which is being used on Selden Trucks.

If you want additional booklets for Selden owners in your territory, drop a line to The Pierce Co., Anderson, Indiana.

Yours for the best results,

*B. B. Williams*  
MANAGER  
PIERCE TRUCK SALES CO.

The Choice of Motor Truck Manufacturers who are sincere and whose purpose it is to build trucks capable of long and efficient service.

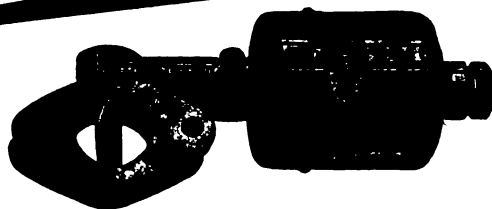
## SELDEN'S SALES BULLETIN

tells their dealers and representatives in very plain words just how much the upkeep cost, and in fact the very life of the truck is dependent upon the Pierce Governor.

Selden has for years furnished Pierce Governors as standard equipment because their experiments and competitive tests have in every instance proven Pierce superiority.

NINETY-ONE MOTOR TRUCK MANUFACTURERS SUPPLY  
PIERCE GOVERNORS AS  
STANDARD EQUIPMENT  
"THERE'S A REASON"

Literature sent on request



**THE PIERCE GOVERNOR COMPANY**  
"WORLD'S LARGEST GOVERNOR BUILDERS"  
ANDERSON - INDIANA



# The Waltham Automobile Clock

More than a Quarter-Million Now in Use as Standard Equipment

You need not look for the name on a car carrying the Waltham Automobile Clock as part of its equipment to know that it is one of the aristocrats of motordom—that its manufacturer selected the Waltham Clock is proof of the quality of his product.

The Waltham Automobile Clock has two mainsprings, is jeweled, and a red signal flashes on the dial every seventh day as a warning that winding is needed.

And no matter how rough the road, or how variable the temperature, your Waltham Automobile Clock can be depended on for accurate timekeeping.

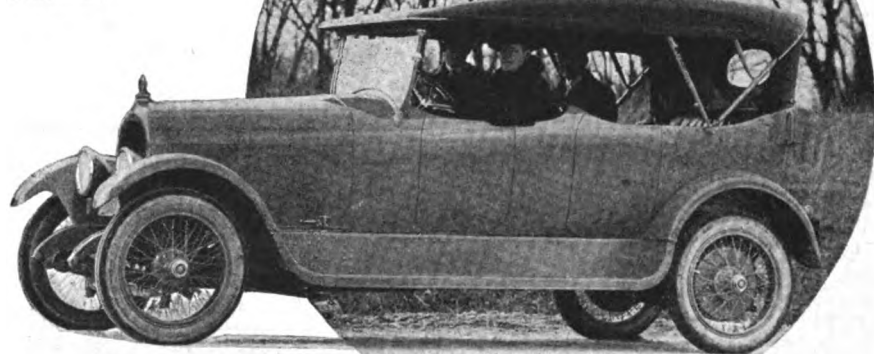


*Waltham Model L Automobile Clock*

## Cars Equipped with the Waltham Automobile Clock

Anderson 6-40	Franklin	Mercer
Apperson	Haynes	Owen-Magnetic
Brewster	Holler	Packard
Cadillac	Hudson Super-Six	Pierce-Arrow
Cole	Jordan	Rauch & Lang
Cunningham	Kissel	Studebaker
Detroit-Electric	Lozomobile	Willys-Overland
Dorris	Marmon	Winton

**WALTHAM WATCH COMPANY**  
**WALTHAM, MASS.**



*Marmon 34 Touring Car  
equipped with  
Waltham Automobile Clock*

# WALTHAM

THE WORLD'S WATCH OVER TIME



# Studebaker

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## THE NEW 60-H. P. BIG-SIX

---

*Built Up to a Standard  
and not Down to a Price*

60-horsepower motor; 126-inch wheelbase; cord tire equipment; shock absorbers; Gypsy top with plate glass windows; genuine hand-buffed leather upholstery; circassian walnut-finished instrument board with silver-faced magnetic speedometer, ammeter and jeweled 8-day clock; glove box in back of front seat; extension tonneau light. Price \$1985, f. o. b. Detroit.

*The New Studebaker Cars offer dealers an exceptional opportunity to build a permanent and profitable business—to cash in on an old reliable name and handle a line of cars that sell and stay sold. Write for particulars.*

### STUDEBAKER

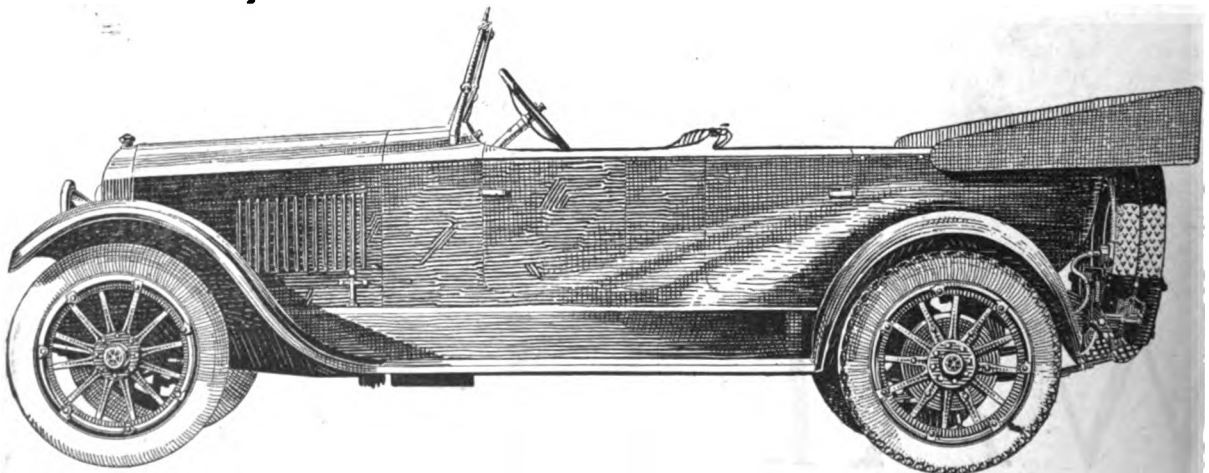
Detroit, Mich.

South Bend, Ind.

Walkerville, Canada

Address all correspondence to South Bend

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# PETERS' METALLIC FILLER

(Nicro Spelter)



**With This Wonderful Brazing Solder You Can Mend a Broken Cylinder Without Removing the Engine**

*Any crack in cast iron, brass or bronze can be permanently repaired*

**I**T makes a Perfect Brazing and a permanent Repair—no trouble—no difficulty—no danger of casting getting out of alignment, warping or distorting.

Peters' Metallic Filler is a new low temperature brazing compound, that can be used in repairing cast iron, bronze, or brass and is particularly adapted for repairing cracks in water jackets. This compound, a recent discovery by K. R. Peters, melts at 300° and forms a perfect braze which is permanent and wear resisting.

The great value of Peters' Metallic Filler lies in the ease with which brazing can be accomplished—broken cylinders can be mended without dismantling or removing

the engine and with full assurance that there will be no danger of warping the bore or changing the alignment.

The discovery of Peters' Metallic Filler replaces the old method of brazing, whereby the casting must be heated to a cherry red with all the consequent dangers of cracking, distorting and warping. Likewise it renders obsolete the old process of welding, which required slow preheating and subsequent annealing. Do not confuse Peters' Metallic Filler, which is a metal and makes a permanent repair, with cement, which is merely a paste.

Peters' Metallic Filler is quick, efficient and inexpensive. It is the modern method

of brazing and has won highest recognition and praise everywhere. Large size repairmen's package \$5.50, consumers' package \$3.00. If your dealer does not have it, order direct.

## JOBBERS

Peters' Metallic Filler is going to earn big profits for jobbers who can look ahead and see the market for this new low temperature brazing compound. Write today for full information and discounts.

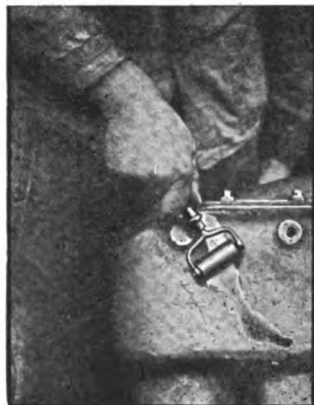
**Aluminum Brazing Solder Co.**  
440 Montgomery Building  
CHESTER, PA.



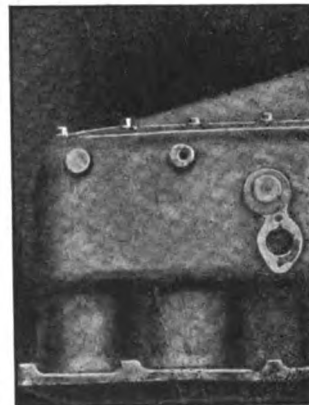
You first clean the crack thoroughly and level the edges



Then heat for a moment with an ordinary hand torch (800° ample) and apply the filler



While the hot metal filler is still soft, pack and roll it smooth



Allow to cool for five minutes, dress off with a file, and the job is done

When writing advertisers please mention Motor World—it identifies you



# BOSCH

**KEY TO MAP**

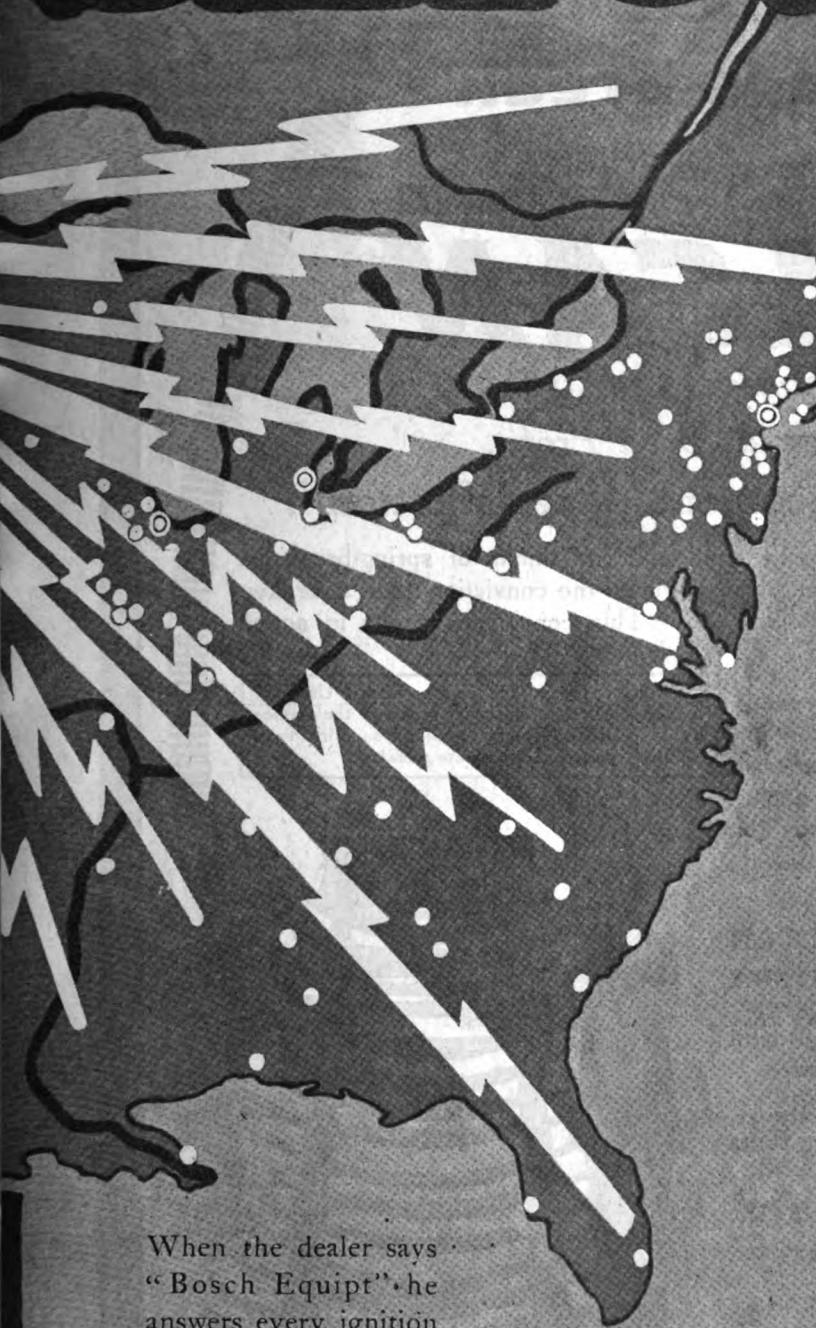
- Service Station
- ⊙ Branch
- Factory

**AMERICA'S SUPREME**  
MOTOR TRUCKS - TRACTORS - AIRPLANES - MOTOR CARS

BOSCH TYPE ZR6  
No. 000 000  
MADE IN U.S.A.



# SERVICE



When the dealer says  
"Bosch Equipt" he  
answers every ignition  
doubt in the mind of  
the buyer.

THE enduring reliability of Bosch Magneto Ignition is recognized and admitted wherever internal combustion engines are known. America's Supreme Ignition System needs no sustaining arguments.

And behind Bosch Supremacy is Bosch Service.

More than 200 Service Stations in over 200 cities are carrying out the Bosch Pledge of Responsibility. For the American Bosch Magneto Corporation's responsibility to its product ceases to exist only when the magneto ceases to exist.

That Bosch Service organization is growing. Highly developed technical men, who are qualified to give service from their own establishments, on the same plane of excellence that the Bosch Magneto has established, are being welcomed into the organization.

## AMERICAN BOSCH MAGNETO CORPORATION

Main Office and Works: Springfield, Mass.

### Branches:

New York - Chicago - Detroit - San Francisco

*More than 200 Service Stations in Over 200 Cities*

# IGNITION SYSTEM

MOTOR BOATS - MOTORCYCLES - GAS ENGINES - ETC.







When  
Springs Break  
put on:

**VULCAN**  
The Replacement Spring

Three Words that Spell Profit.

“VULCAN”, “replacement”, “satisfaction”.

are the first three flashes in a motorist's mind after he thinks of spring-breakage. Persistent, continuous national advertising has imprinted the conviction that a broken spring ought to be replaced with a VULCAN. This conviction results in action every day, in every part of the country.

This created demand—this ready-made market, assures VULCAN dealers of unlimited profit at the lowest possible sales-cost, and VULCAN Springs stand by the dealer. They have the built-in quality that keeps the buyer satisfied, and makes him talk VULCAN to his friends.

A reserve of 100,000 VULCAN Springs keeps the dealers' stock completely supplied at all times. This profit, this waiting market, this hearty co-operation is open to every VULCAN dealer, everywhere.

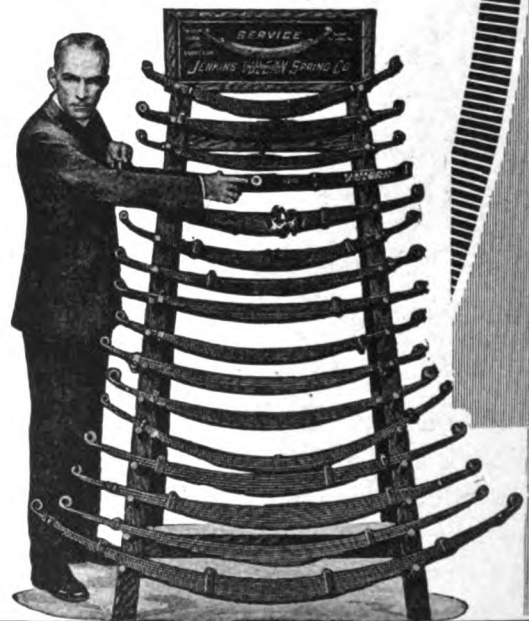
Why not cash in on them? Write us. We can tell you some interesting facts regarding the profit in VULCANS.

**Jenkins VULCAN  
Spring Company**

RICHMOND, FACTORY INDIANA  
BRANCHES

Atlanta, Ga.	Minneapolis, Minn.
Boston, Mass.	Reading, Pa.
Dallas, Tex.	St. Louis, Mo.
Kansas City, Mo.	Sumter, S. C.

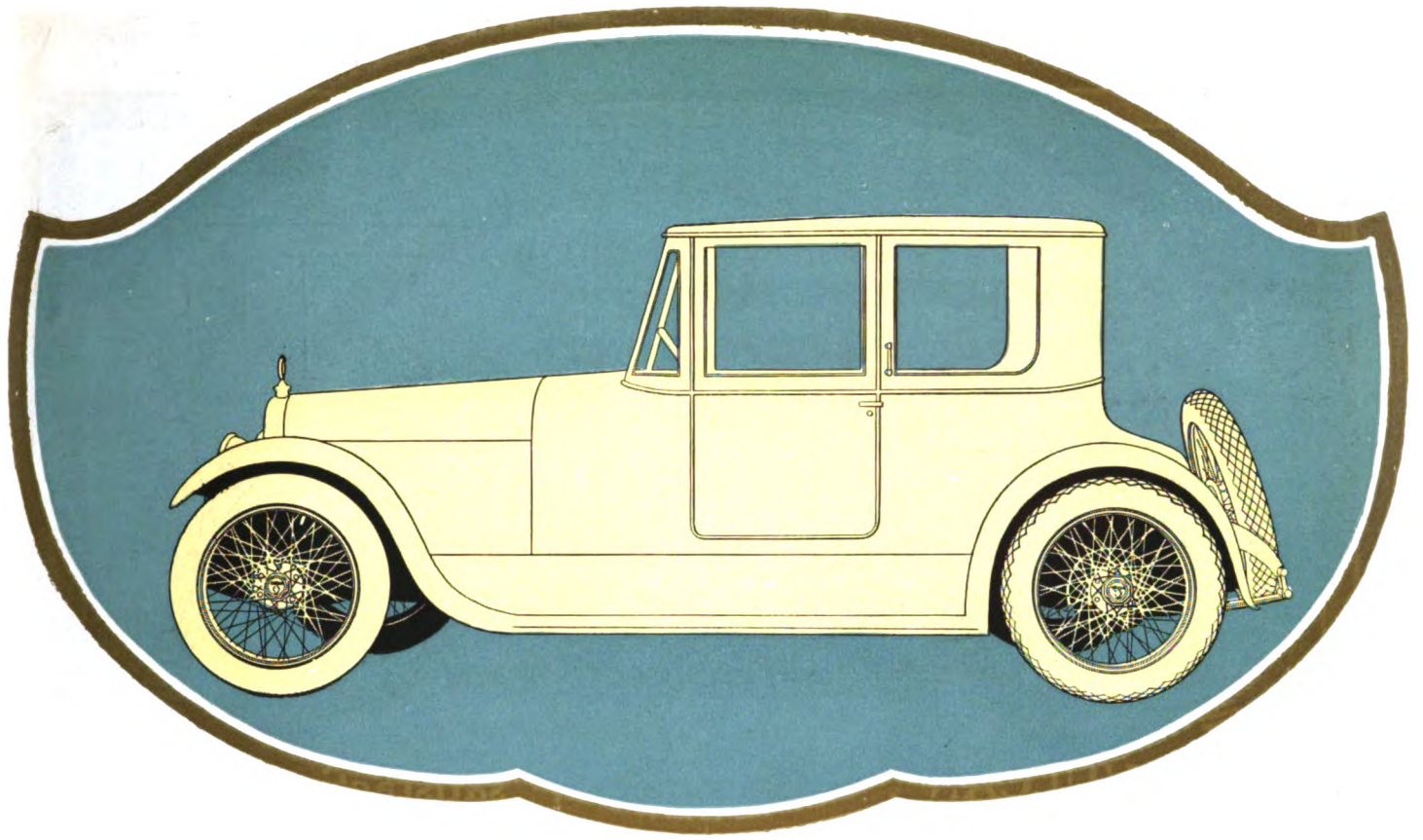
With your first order for 12 or more VULCAN Springs come the free display rack and the service sign. VULCAN service backs you with local advertising helps that increase profits.



IN  
EVERY TOWN  
for EVERY CAR

**Jenkins VULCAN  
Spring Co.**  
Richmond, Indiana.





# *The* JORDAN *Brougham*

**T**HE Jordan Brougham was happily conceived and first introduced by Jordan in anticipation of the pronounced demand for just this type of car which now seems insatiable.

How inviting to a woman and how convenient for a busy man is a car like this. There is a distinct satisfaction in personally driving a compact enclosed car as contrasted with the old-fashioned bulky car of excessive length and weight—always cumbersome and extravagant.

It will accommodate the average family, seating five people comfortably in the full width rear seat and two individual seats. The light aluminum body, hammock swung between the axles, is virtually dust and rattle proof, with broad vision—yet it may be opened so as to be practically out of doors.

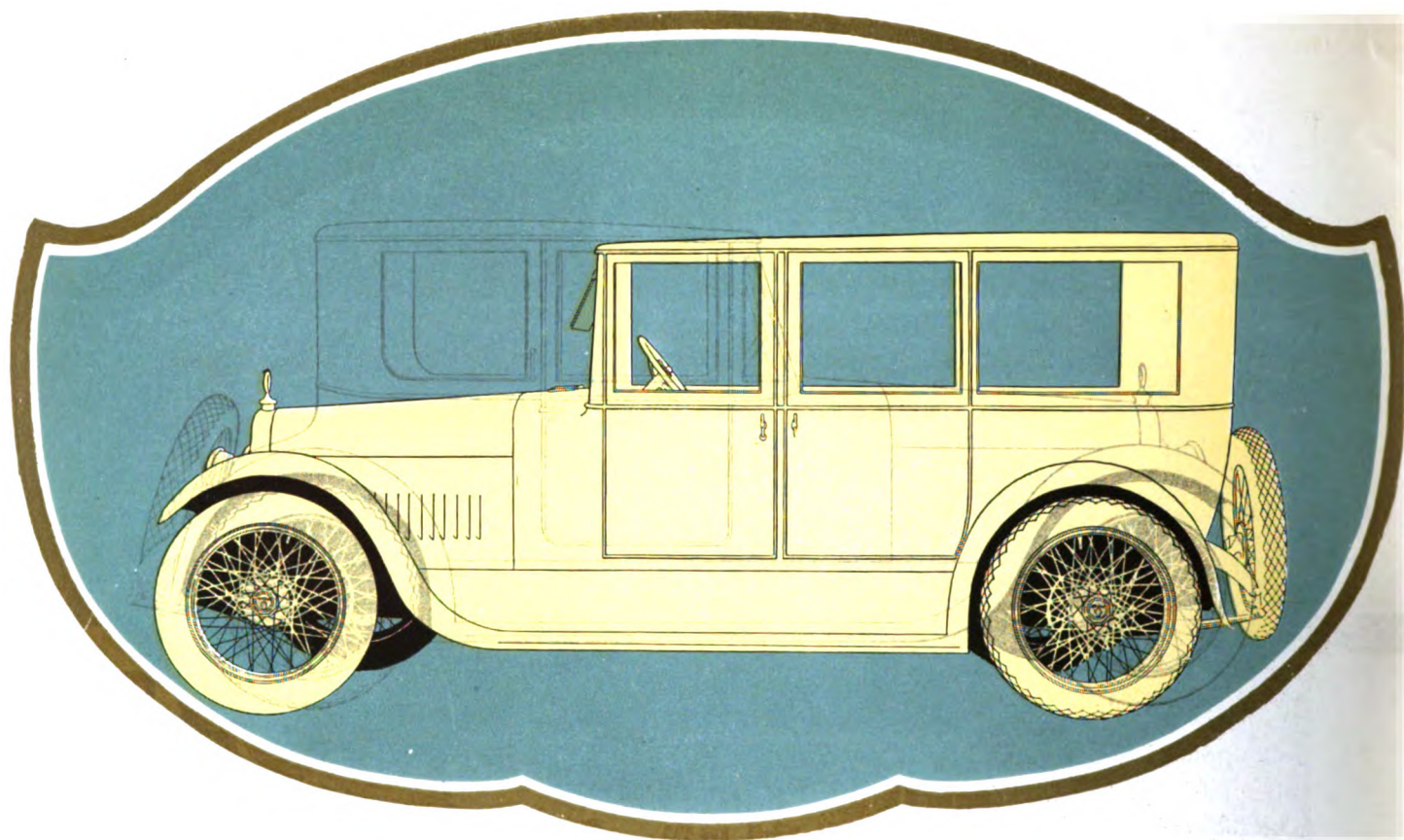
The interior provides comfortable intimacy and cleanliness with all of the advantages of the electric without the limitations.

Upholstery in smart worsteds over Marshall cushion springs. Paneling and mountings are in Circassian walnut.

Dome light, individual reading lamps, clock on instrument board. Windows operate with improved lifts. Front entirely enclosed with sloping three-part, weather-proof, ventilated shield.







# The JORDAN Town Sedan

A COMFORT loving and particular class of people demanded that someone should produce a fashionable modern Town Sedan of the latter day, four door, straight line, complete vision type, fashioned in aluminum and built so substantial as to banish the rattles and rumbles which characterize bodies of lesser quality. Jordan has met this demand with the Town Sedan.

The lines are perfectly straight, with slender roof and narrow belt line. Large, square-cornered windows, even in the rear, and broad, square-cornered doors.

There are vertical straight type outside door handles—Mount Vernon platinum fittings embellished with our individual design.

Upholstery of new design and character, soft in texture, durable in quality, and neutral in color.

The body is lighter in weight than any of its type—seven passenger capacity, with a new type of three-piece windshield, absolutely the tightest we have ever seen.

There is a broad, comfortable, full-width, full-depth front seat with two auxiliary seats and a rear seat of rare comfort, depth, and repose.

The doors are inset, with Perfection lifts with patent Yale locking device.

The ventilator on the dash cowl may be positively locked in any position and operates from the instrument board. Windows framed in Circassian walnut—glass of peculiarly thick and transparent type.

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JORDAN MOTOR CAR COMPANY, CLEVELAND, OHIO

---







"I want to be sure the car is upholstered with Duratex—because a friend of mine has had it on his car a year and it looks as good as the day he bought the car."



"Here's Duratex—the finest leather-finish upholstery material that you can buy. Looks and is better than any of the ordinary substitutes and costs \$25 per car less than even the cheapest leather. Here's a saving that your Directors will appreciate, and an improvement that customers will like."

# DURATEX—

## The Leather-finish Upholstery Material

**DURATEX** is the only leather-finish upholstery material made by a House with *Fifty Years' experience in making fine leathers.*

Duratex will not crack or scuff. It is absolutely Waterproof and Sunproof. Will not "spew" and therefore cannot soil or injure clothing.

So many cars are upholstered with Duratex nowadays that motorists are asking for Duratex *by name.*

THE DURATEX COMPANY

Newark, N. J.

Ira A. Kip, Jr., Pres.

A Quality Product

# DURATEX

The Leather-finish Upholstery Material



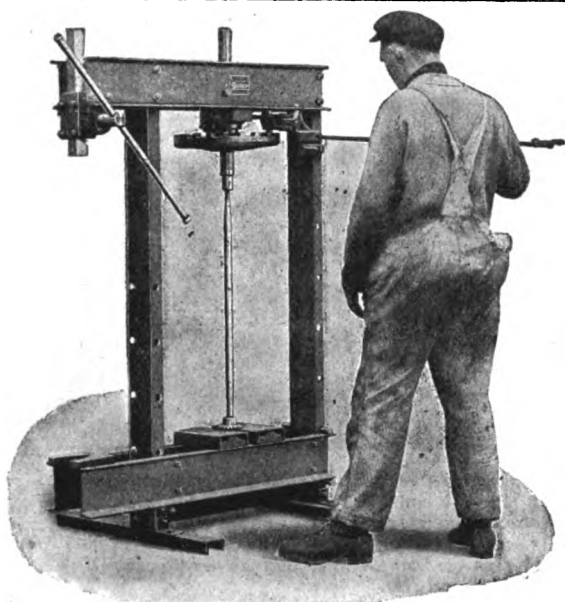


# Manley Garage

## *Announcing a high speed Rack and*

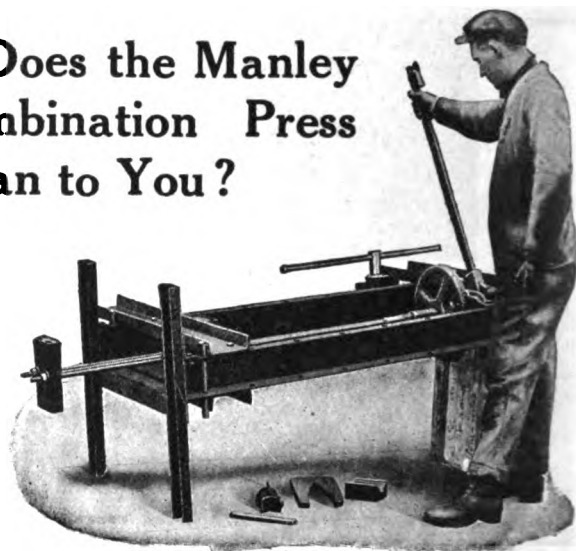
The addition of this Rack and Pinion Arbor Press attachment to any Press in the Manley Line of 22-ton Garage Presses is the greatest improvement ever added to a Press for this service.

Every Garage Man who has seen it says: "I would not have a Press without it, since I realize what it will do."



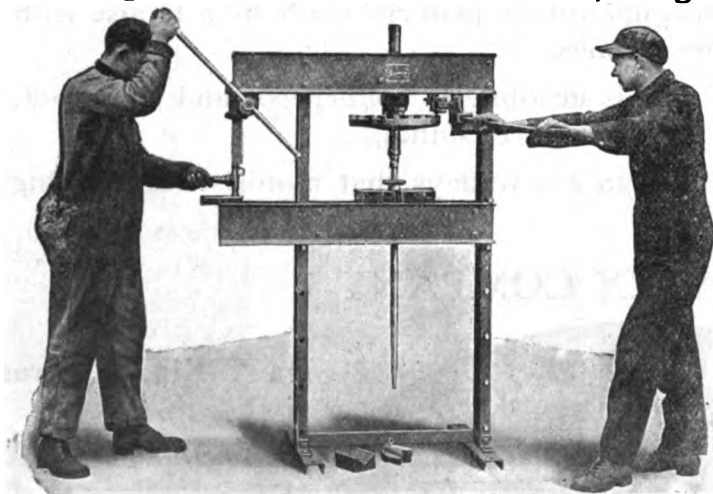
No. 2 Combination Press, List Price \$112.00, operator using ratchet leverage to press drive shaft into differential pinion

## What Does the Manley Combination Press Mean to You?



Manley Presses are self-contained and may be turned over for long work projecting below the table, and two extension bolts may be used as shown

It means that when you do work of the heaviest kind you use the screw with the ratchet leverage of 2200-5000 to 1. It is slow, but gives the pressure.



Two men may work at the Manley Combination Press at the same time. One operator is pressing off differential pinion, the other is using the Rack and Pinion Arbor Press to press a bushing into a Ford steering knuckle.

It also means that when you want to do somewhat lighter work you use the screw, but by using the lever in the handwheel notches (change instantly made—just turn the lever around) you have a leverage of 1000-1, about eight times quicker than the ratchet.

And then when you have light work to press, such as bushings, pins, etc., you use the Rack and Pinion Arbor Press attachment, which is at least 200 times quicker than you can do it on other presses having a screw and ratchet method only. Briefly, it means you have a Press and a Leverage exactly suited for every job and that you can do the

*The Manley Trade Mark on Garage Equipment is your Guarantee.*



# Equipment

## *Pinion Arbor Press Attachment*

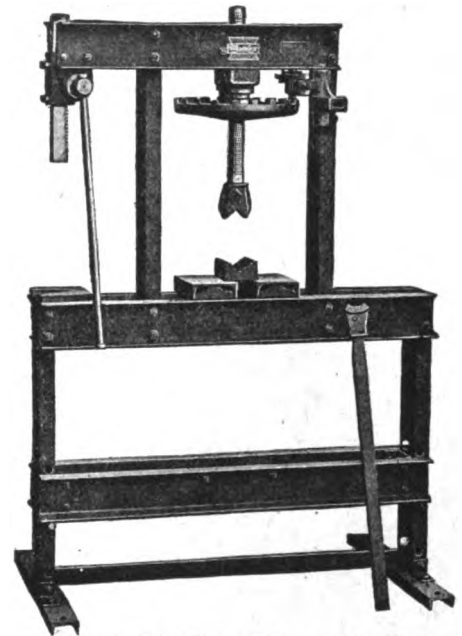
Every improvement added to a Garage Press has been made by R. E. Manley and it remained for him to absolutely perfect the Garage Press by making this last improvement.

job in the shortest time, to the best advantage and with the least effort.

The Rack and Pinion Arbor Press attachment may be placed on any one of the four Presses of the Manley Line. List price \$32.00 extra to the list price of the Press selected. The Manley Line comprises four different sizes, so that every Garage can select a Press to suit its requirement to the best advantage. Send for your catalogue and prices.

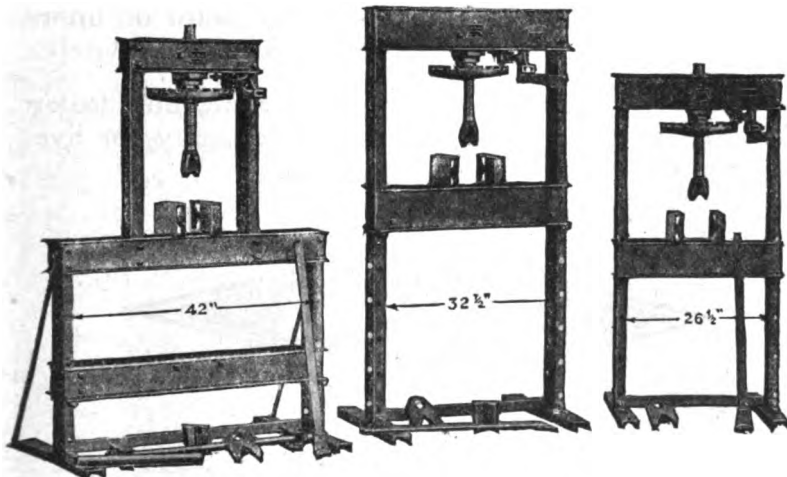
The screw, hand wheel, ratchet parts, etc., are the same in all sizes, as well as the Rack and Pinion attachment. The construction of the Manley Press with its massive double top Girder, its unit table, etc., adapts itself to this Rack and Pinion attachment with absolutely no complication and without sacrificing a single feature.

The Manley Combination Press is the only Press you can afford to buy, not because it is the cheapest, but because it will do so much more for you.



Universal Auto Press equipped with Rack and Pinion Attachment. List price \$137.00

### *Four Sizes of Presses in the Manley Line*



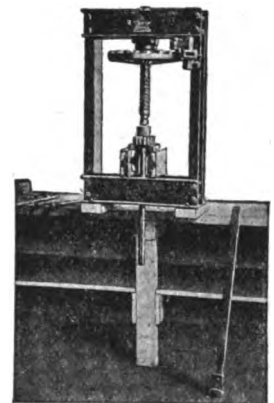
Universal Auto Press.  
Price, \$105.00  
Weight, 450 lbs.

No. 1 Garage Press.  
Price, \$98.00  
Weight, 425 lbs.

No. 2 Garage Press.  
Price, \$80.00  
Weight, 325 lbs.

### **Auto Bench Press**

This Press is the top half of the Universal Auto Press, and will handle a large proportion of auto work. Capacity in width 18½ in. The lower half may be purchased at any future date, converting it into the complete press by inserting eight bolts.



Auto Bench Press.  
Price, \$60.00  
Weight, 225 lbs.

**The United Engine & Mfg. Co.**

**Hanover, Pa.**





## MAKING REAL FRIENDS OF CUSTOMERS!

Nothing is so important in the upbuilding of a business as keeping customers highly pleased and satisfied with your service and co-operation. A motorist will go blocks out of his way to patronize you if he knows he can depend upon your interest in the service of his car or truck.

## PERFECTION MOTOR OIL

is a product you can sell motorists with a positive knowledge that you are rendering him real service—that you are taking a genuine interest in his car or truck. In recommending PERFECTION you can be assured he is going to find it superior to others. Consequently you make a new friend and customer.

PERFECTION MOTOR OIL is the result of 57 years' study and research. It is refined from pure Pennsylvania paraffine base crude—the highest grade lubricating oil obtainable. By reason of its non-acid, heat-resisting, carbon-reducing qualities, it is the one motor oil upon which you and your customers can depend—absolutely.

Get in touch with us—today—concerning our dealer proposition. There is a splendid opportunity for live wire representation in many localities.



## CREW LEVICK CO.

105 NO. BROAD STREET  
PHILADELPHIA

(Subsidiary Cities Service Co.)

Branches, Agencies and Dealers Throughout the World

When writing advertisers please mention Motor World—it identifies you

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## THE NC-4 WINS

The motors of the NC-4, winner of the sensational Trans-Atlantic flight from America to England, were lubricated with

## GULF LIBERTY AERO OIL

This wonderful machine used "Gulf" oil on its entire flight. The Navy carefully provided supplies of "Gulf" oil at Rockaway and at all stations along the entire course,—Halifax, Nova Scotia; Trepassey Bay, Newfoundland; Horta and Ponta Delgada, Azores; Lisbon, Portugal; Plymouth, England, and on all supply ships.

### Perfect Lubrication Imperative

This epoch making flight was made possible by perfect lubrication.

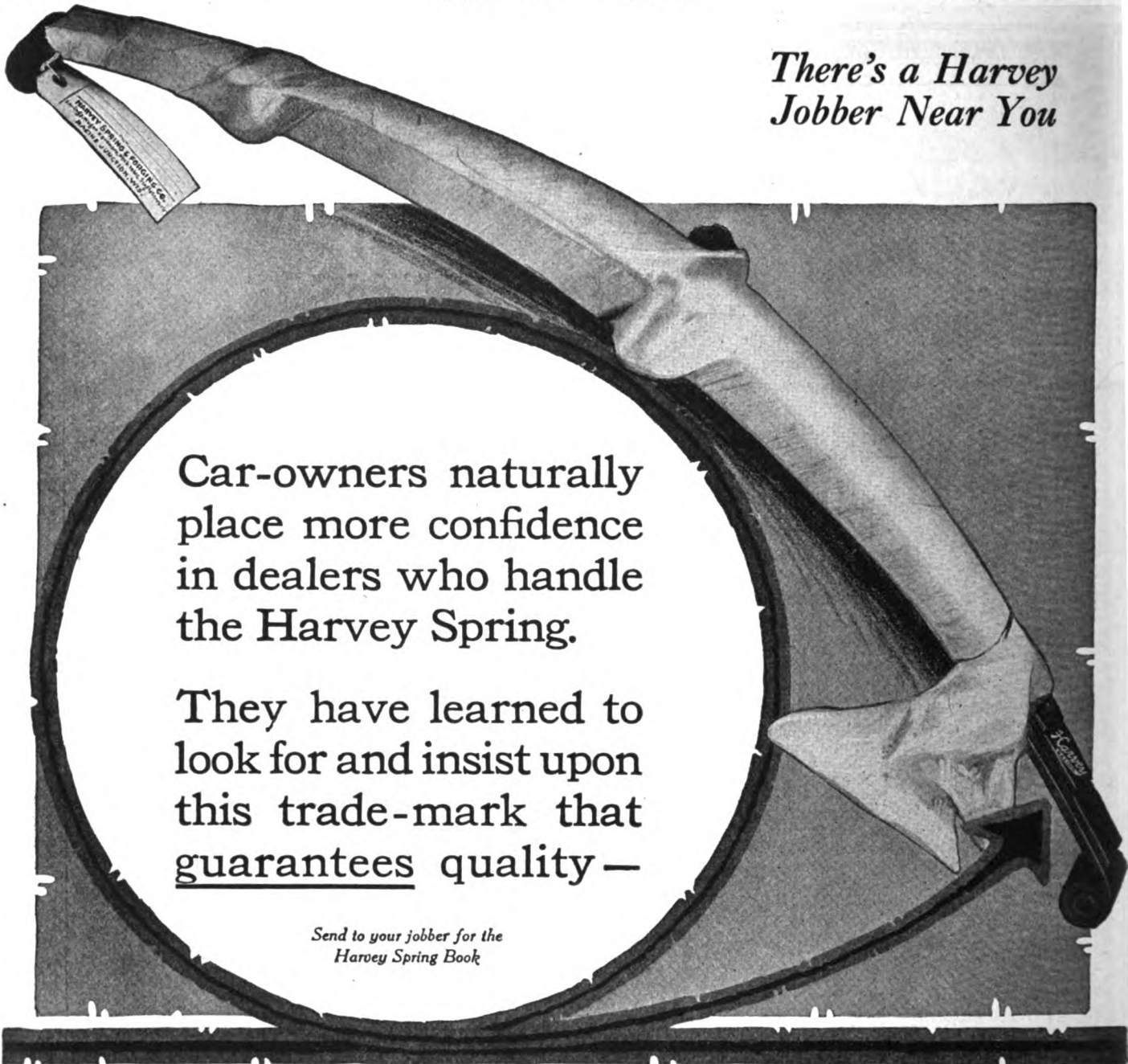
After exhaustive scientific tests of all oils, GULF LIBERTY AERO OIL was selected for this SUPREME TEST.

**Use Gulf Lubricants and Win**

**GULF REFINING COMPANY**

There is more power in  
**THAT GOOD GULF GASOLINE and SUPREME  
AUTO OIL**  
**THE CHOICE OF DISCRIMINATING USERS**





*There's a Harvey  
Jobber Near You*

Car-owners naturally  
place more confidence  
in dealers who handle  
the Harvey Spring.

They have learned to  
look for and insist upon  
this trade-mark that  
guarantees quality—

*Send to your jobber for the  
Harvey Spring Book*

**Harvey**  
**RACINE**

Boltless  
Automobile  
Springs

*Easy Riding - Guaranteed*



# BLACKHAWK

THE  
AMERICAN



RUST PROOF  
WRENCH



COMBINATION SET No. 10

Blackhawk wrenches are carefully designed and machine turned to insure an accurate fit. They give better service to car owners and garage men and mean more sales for jobbers and dealers. Made of dependable materials, have Parker rust-proof finish. The Blackhawk line includes a wrench for every need—all guaranteed. Sell your wrenches by name. Get your trade to call for "Blackhawk." It pays.

*Write for catalog and prices.*

Manufacturers: We make wrenches according to specifications.

## C. N. & F. W. JONAS

Representatives for

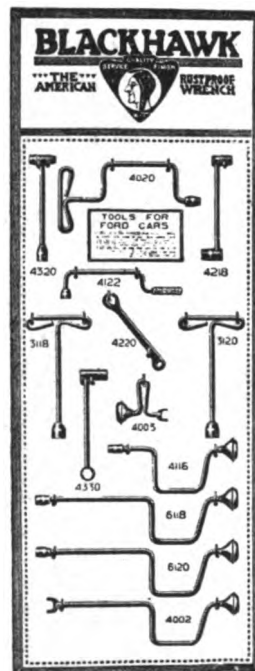
American Grinder Mfg. Co., Milwaukee, Wis.

With Offices at

Transportation Bldg., CHICAGO,  
Equitable Bldg., LOS ANGELES,  
111 New Montgomery St., SAN FRANCISCO,  
616 Pioneer Bldg., SEATTLE.



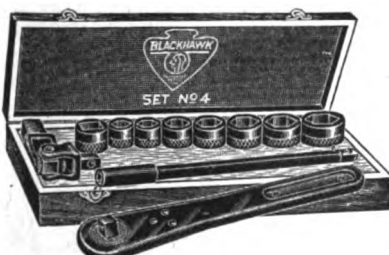
COMBINATION SET No. 8



DISPLAY BOARD No. 400  
FOR FORDS



COMBINATION SET No. 6



COMBINATION SET No. 4  
FOR FORDS



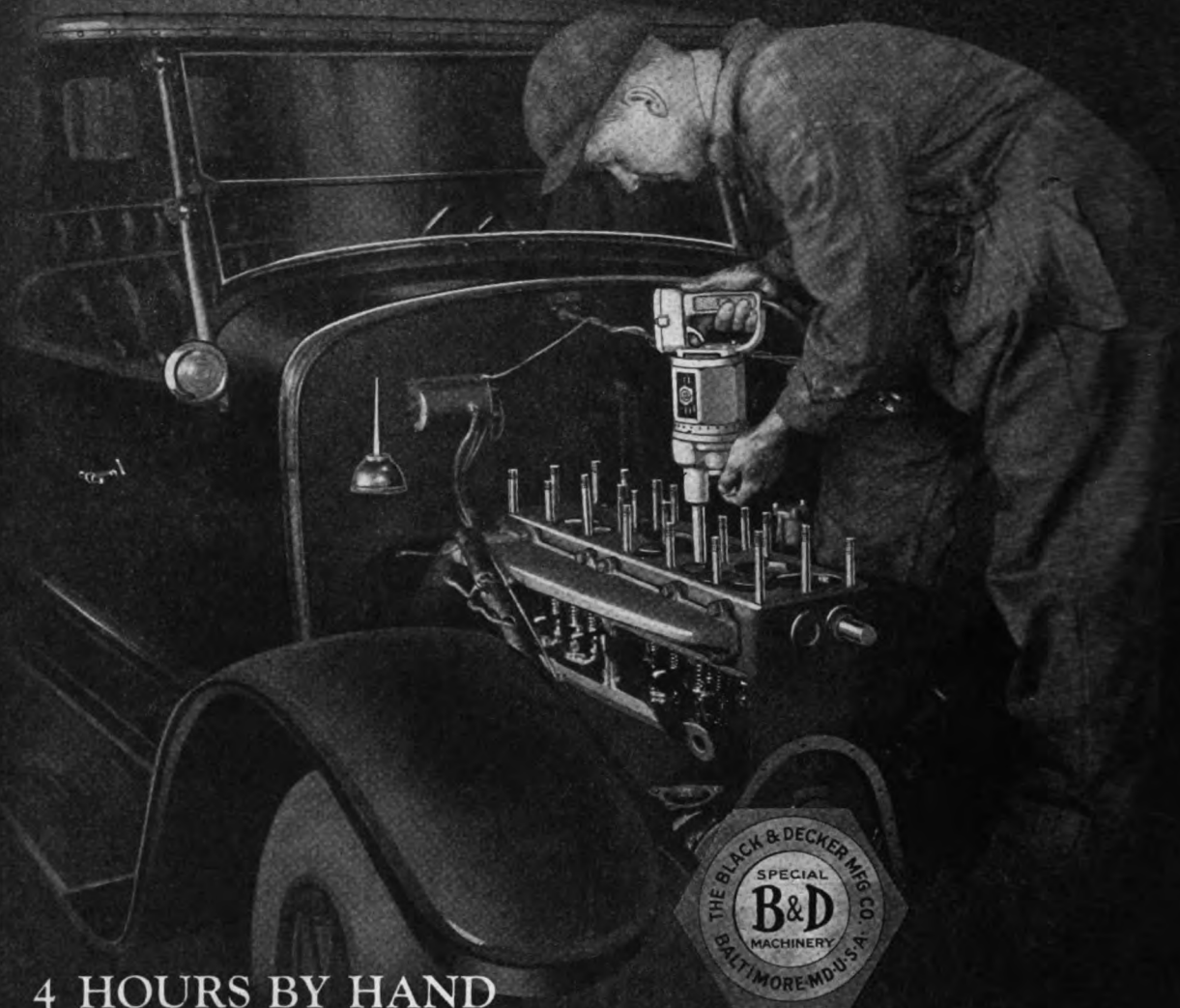
COMBINATION SET No. 2



# BLACK & DECKER

## Electric Valve Grinder

*"With the Pistol Grip and Trigger Switch"*



**4 HOURS BY HAND**  
**35 Minutes with a Black & Decker Electric Valve Grinder**

This is the experience of a large Hudson Service Station in which this picture was taken. The complete job of grinding in all the valves of a Hudson Supersix for-

merly required four hours' work. The same job is now done in 35 minutes with a Black & Decker Electric Valve Grinder.

*May we send you complete information?*

**THE BLACK & DECKER MFG. CO.**

BALTIMORE, MD., U. S. A.

Portable Electric Drills

Electric Valve Grinders

Electric Air Compressors

BRANCH OFFICES:

New York, N. Y.

Philadelphia, Pa.

Atlanta, Ga.

San Francisco, Cal.

Chicago, Ill.

Detroit, Mich.

Columbus, Ohio.

Buffalo, N. Y.

Boston, Mass.

London, Eng.

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**S**HELDON AXLES ARE NOW TO BE ADVERTISED in a much more vigorous manner than ever before, through a campaign which will reach practically every source of demand for high grade motor trucks. Repeated use of large space in the magazines of widest circulation and greatest influence will feature the campaign.

PERIODICALS OF NATIONAL CIRCULATION are to be employed — among them *The Saturday Evening Post* and the leading business and trade publications.

IN LANGUAGE FREE from mystifying technical phraseology, the story of Sheldon's great achievement in axle construction will be unfolded before the layman. A straight appeal that puts it squarely up to his sense of values, performance and economy will show *the man you want to reach* why the truck he buys should have a Sheldon Worm Drive Axle.

FOR YEARS THE NAME SHELDON, among technically trained men, has been a symbol of supreme quality in axle design. And Sheldon copy will show clearly why Sheldon has won the unqualified endorsement of engineering opinion the world over.

*See next two pages for reproduction of Saturday Evening Post advertisement for June 28th*



# Sheldon

## FOR MOTOR

### Automatic Adjustment

Expansion due to heat is compensated automatically in Sheldon Worm Gear Axles.

The Sheldon thrust bearing is a ball bearing—the only type of bearing that will take the thrust of the worm in both directions. The Sheldon front bearing is free to move as the worm expands, and thus adjusts itself to expansion and wear.

#### Sheldon Axles are Self-Adjusting

No external adjustment is necessary—therefore it is not provided.

In the Sheldon thrust bearing adjustment is automatic, which takes care of the expansion in the worm and prevents tight bearings and loss of power.

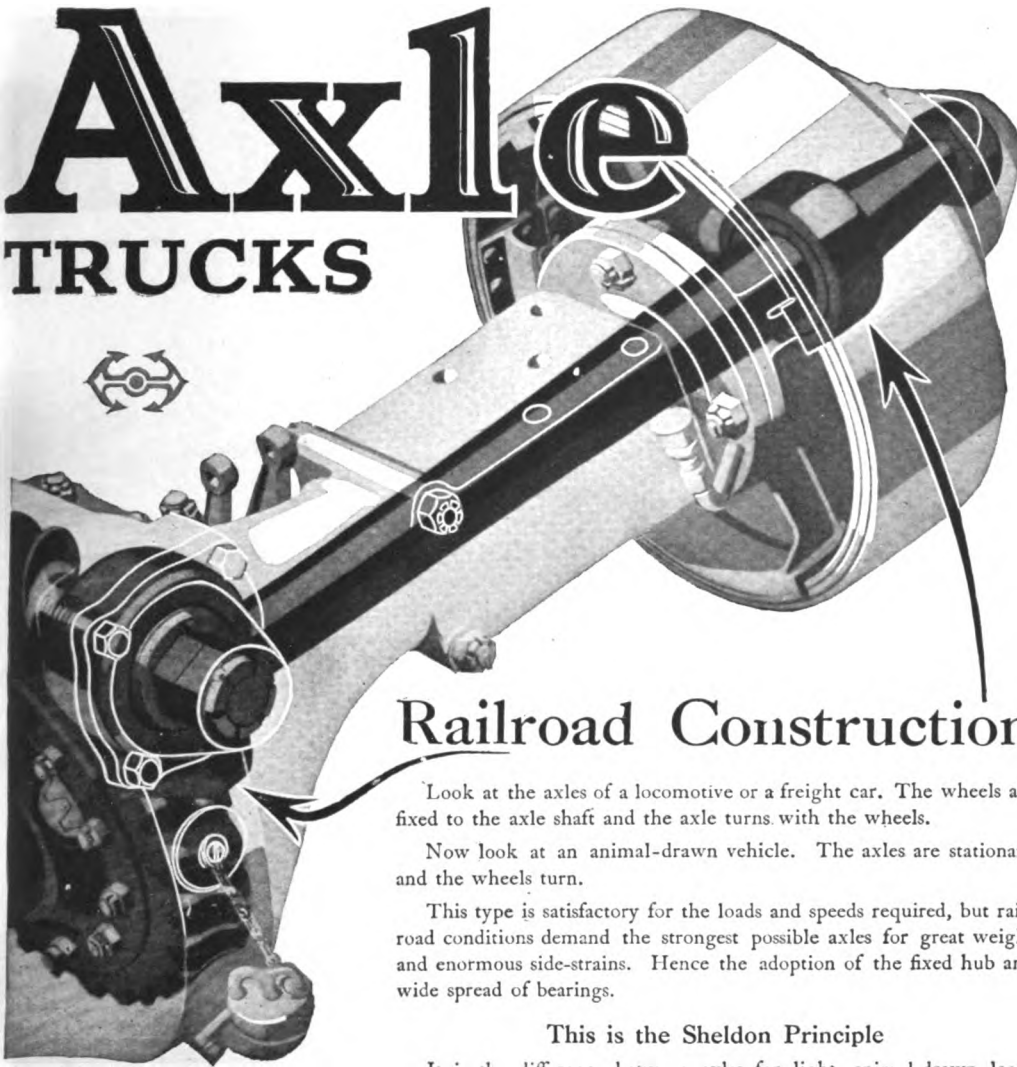
In addition to this feature, ball thrust bearings take all combinations of radial and thrust load directly through the center of the balls, so that wedging is impossible and friction is reduced to the minimum.



*THIS is the first of a series of dominating advertisements which will appear in leading publications of national circulation.*



# Axle TRUCKS



## Railroad Construction

Look at the axles of a locomotive or a freight car. The wheels are fixed to the axle shaft and the axle turns with the wheels.

Now look at an animal-drawn vehicle. The axles are stationary and the wheels turn.

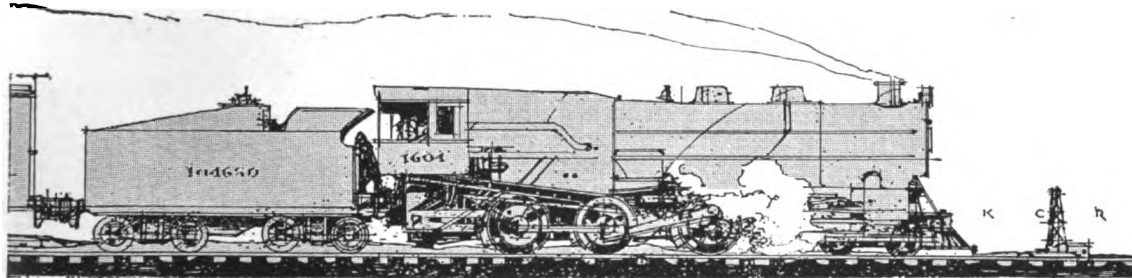
This type is satisfactory for the loads and speeds required, but railroad conditions demand the strongest possible axles for great weight and enormous side-strains. Hence the adoption of the fixed hub and wide spread of bearings.

### This is the Sheldon Principle

It is the difference between axles for light, animal-drawn loads and Axles that Carry the Freight Tonnage of the World.

*Send for catalogue explaining the Sheldon points of superiority*

**SHELDON AXLE & SPRING COMPANY, Wilkesbarre, Pa.**



***T**HE Saturday Evening Post and other magazines will carry the message of SHELDON quality to many millions of readers this year.*



---

**F**ROM THE FIRST, SHELDON ENGINEERS and builders have worked with one fixed purpose—to develop a worm drive axle that would give better and more economical service over a longer period of time.

Their efforts have never (as often happens) been circumscribed by any consideration of price.

For it seemed that any farsighted truck maker would be willing to pay somewhat more for his axles, and the user somewhat more for his truck, for the sake of a definite assurance of trustworthy performance.

Today the recognition accorded Sheldon in engineering circles is all the evidence needed that this policy has never been compromised.

**SHELDON AXLE & SPRING CO.**

*Makers of Springs and Axles for Heavy Duty Service for More Than Fifty Years*

**WILKES-BARRE**

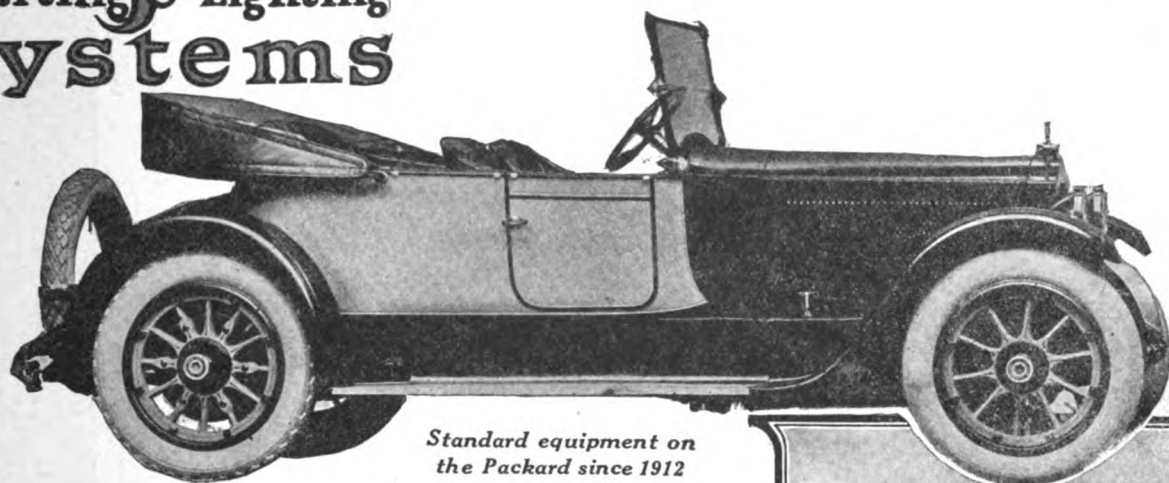
**PENNA.**

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# Bijur

## Starting & Lighting Systems



*Standard equipment on  
the Packard since 1912*

### On Fine Cars the Bijur System Is an Assurance of Dependability

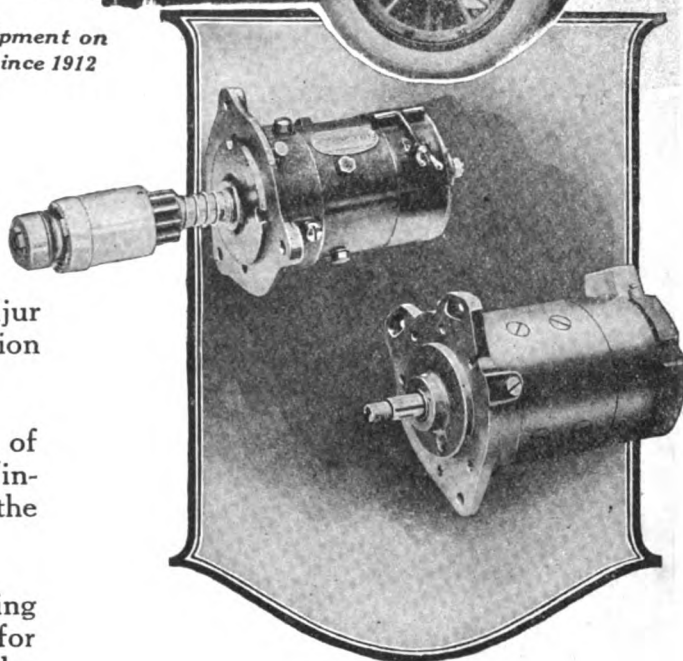
**T**HE quality of the cars which use the Bijur Starting and Lighting System is an indication of merit.

Beginning with the Packard in 1912, adoption of the Bijur System has extended to the Marmon, Winton, Apperson, Jordan, King, Roamer and the Peugeot of France.

Besides meeting the requirements for the leading passenger cars the Bijur System has been adopted for use on motor trucks, air and sea planes, dirigibles and tanks.

The Starting of DePalma's 150 mile an hour Packard was not too heavy, the transatlantic flight of the NC Planes was not too far, and the design of the Bijur Starters is such that no application can be too small for the Bijur System to meet effectively.

Bijur Engineers are prepared to discuss plans and suggest designs for the incorporation of the Standard Bijur System to any form of automotive starting and lighting duty.



### THE BIJUR LIST

Apperson	Roamer
Atlas	Templar
Commerce Truck	Winton
Grant	Curtiss Aeroplane
Jordan	Co. The "Oriole"
King	U. S. Army and
Marmon	Navy
National	NC Planes
Packard	C Blimps
Peugeot of France	Tanks

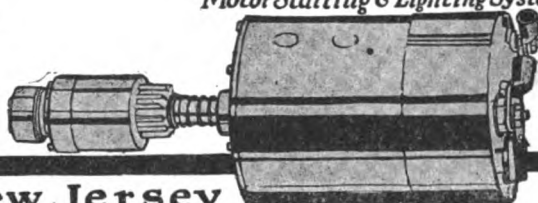
# Bijur Motor Appliance Company

Hoboken



New Jersey

*Motor Starting & Lighting Systems*



10

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Unless a business is built on quality products, competition becomes a crushing force rather than the "life of trade."

Thousands of dealers are selling AC Spark Plugs for that reason.

The superiorities of AC Spark Plugs are recognized everywhere. The proven merit of AC's has created for them a tremendous demand, which is growing daily.

Dealers, who concentrate on the AC line, make quick and easy sales and benefit from frequent turnovers on their investment.

To stock AC's is to sell AC's. These spark plugs need not be pushed or offered at a sacrifice to get them off your counters and shelves.

AC Spark Plugs are the quality product of an established company, which for the past twelve years has had the confidence of the American automotive industry.

America's leading automobile engineers have found AC's best after exhaustive tests. Their recommendations have led to the use of AC's as original equipment on most fine passenger cars and on the majority of trucks and tractors of established reputation.

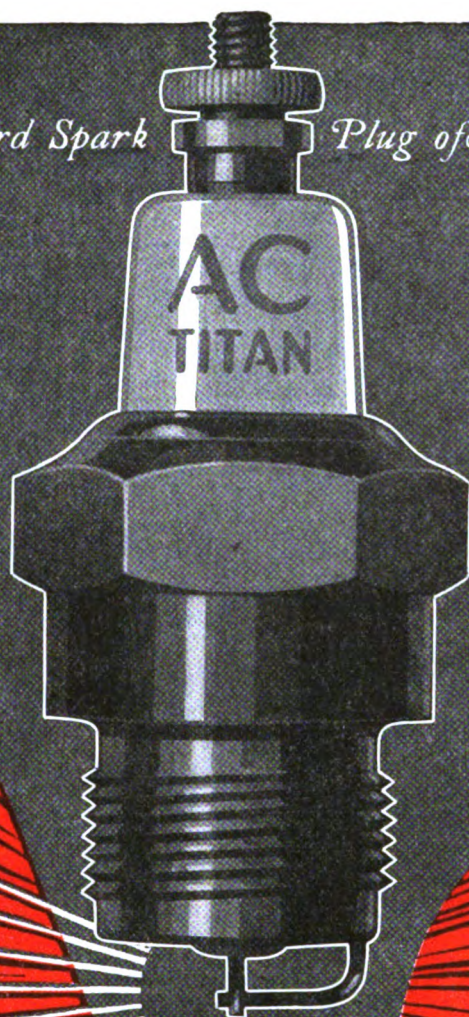
After the most exacting of competitive tests, AC Spark Plugs were adopted as standard equipment on all Liberty and Hispano-Suiza airplane motors.

The public knows the goodness of AC's. Automobile owners everywhere are convinced that AC's are *right* and demand them. That is the reason you can't go wrong by stocking the complete AC line. Complete dealer information sent on request.

Champion Ignition Company, FLINT, *Michigan*



*The Standard Spark Plug of America*



**These manufacturers use AC Spark Plugs for factory equipment**

Acme Trucks	Daniels	Hispano-Suiza	McLaughlin (Canada)	Pierce-Arrow	Stearns-Knight
Advance-Rumely	Davis	Howell Tractors	Menominee Trucks	Pilot	Sterling Motors
Tractors	Deere Tractors	Hudson	Midland Trucks	Pioneer Tractors	Sterling Trucks
Ahrens Fox Fire Trucks	Delco-Light	Hupmobile	Mitchell	Premier	Stewart Trucks
American-La France	Diamond T Trucks	Jackson	Moline-Knight	Reo	Straubel Engines
Anderson	Diehl Trucks	Jordan	Moreland Trucks	Re Vere	Stutz
Apperson	Dodge Brothers	Jumbo Trucks	Napoleon Trucks	Riker Trucks	Sullivan Trucks
Appleton Tractors	Dort	Kent Concrete	Nash	Robinson Fire Trucks	Swartz Lighting
Auburn	Duesenberg Motors	Mixers	National	Rock Falls	Plants
Avery Tractors	Eagle Tractors	Kissel Kar	Nelson	Rowe Trucks	Titan Trucks
Brookway Trucks	Essex	Kleiber Trucks	Nelson & Le Moon Trucks	Rutenber Motors	Tower Trucks
Buffalo Motors	Federal Trucks	Klemm Trucks	Netco Trucks	Samson Tractors	Universal Trucks
Bugatti	F-W-D Trucks	Knox Tractors	Northway	Sandow Trucks	United States
Buick	Gabriel Trucks	K-Z Trucks	Oakland	Saxon	Motor Trucks
Cadillac	Genco Light	La Crosse Tractors	Old Reliable Trucks	Scripps-Booth	Vim Trucks
J. I. Case T. M. Co.	G. B. S. Motors	Lalley-Light	Oldsmobile	Scripps Motors	Ward La France
Chalmers	G. M. C. Trucks	Lane Trucks	Packard	Seagrave Fire Trucks	Trucks
Chandler	Gramm-Bernstein	Liberty	Paige	Seneca	Westcott
Chevrolet	Trucks	Liberty Aircraft	Pan-American	Signal Trucks	White
Chicago Trucks	Gray Dort	Motors	Peterson	Singer	Whitney Tractors
Cole	Hall Trucks	Locomobile	Patriot Trucks	Smith Motor Wheel	Wilcox Trux
Commonwealth	Harvey Trucks	Master Trucks	Peerless	Standard Trucks	Wisconsin Motors
Conestoga Trucks	Hatfield	Maxim Fire Trucks	Phianna		Wolverine Tractors
Continental Motors	Haynes	Maytag			
Crane-Simplex	Herschell-Spillman				

U. S. Pat. No. 1,135,727, April 13, 1915, U. S. Pat. No. 1,216,139, Feb. 13, 1917, Other Patents Pending

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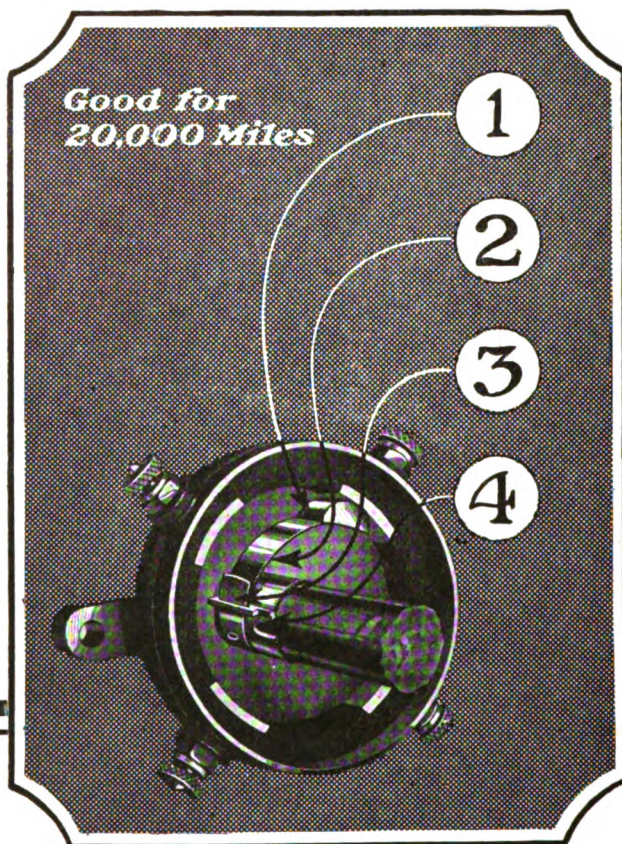


# Miller Never Miss Timer

## *Sliding Contact Principle*

1. *Cushion Spring—acts as a shock absorber for the brush and absolutely prevents "jumping" or breakage in the event of backfire.*

2. *Easy fitting Brush coupling. Fits any standard Ford Timer Shaft and permits use of MILLER "NEVER-MISS" Brush with any standard make of Timer.*



3. *Rounded contact, brush of wear proof hardened steel, insures positive sliding contact with never-a-miss.*

4. *Swedish steel spring, insures an even tension contact at all speeds, and under all conditions of service.*

## How to Banish Ford Timer Troubles

*and get five times longer and better service, at no additional cost*

There are no two engineering opinions about it: The regular standard rolling brush in your Timer is a trouble-maker. It batters the contact bed until a series of ridges is formed on the shoes, and then you get that bumpety-bump effect that causes misfires and no end of mischief. It's a bad actor.

Now look at the picture of the "MILLER NEVER-MISS TIMER." Get the principle? It has a sliding contact brush; the more you run the car, the smoother you make the contact bed. No chance for bumps, ridges or misfires here—noth-

ing but sure-fire action, a hot spark every time around. You'll never have firing trouble with a MILLER aboard.

### You Can Buy A Miller "Never Miss" Brush For Your Present Timer

*The Miller Brush, which makes possible the remarkable efficiency of the Miller Timer, can be purchased separately for use with any standard make of Timer. It merely takes the place of the old style Brush and can be easily installed in a moment. Even though the contact ring of your present timer is in bad shape the Miller "Never Miss" Brush will wear it smooth again after about 500 miles of service.*

*List price of Brush only—80 cents.*

You're lucky if your regular Ford rolling brush timer stays on the job for 3,000 miles. Yet the MILLER NEVER-MISS is giving upward of 25,000 miles of perfect service on many cars and 20,000 miles is a general average.

That's *SOME* mileage for a two-dollar bill. Goes on easily—you can attach it yourself in a couple of minutes. If your dealer doesn't have it, send us the two-spot and your dealer's name and we'll ship you a MILLER Timer, complete with brush, by return mail.

**DEALERS**—If you want a quick seller, lay in a stock of these timers. The original inventor, whose patent we have purchased, was a Ford agent in a little town in the Middle West; yet he'd hardly more than got his patent papers filed when he was making and selling 5,000 a month in his tight little territory, without a penny's worth of advertising. That's just a sample of how Ford owners are gobbling it up. It's the quickest little mover you ever handled. Good discounts. Ask your jobber, or write to us. Be sure to mention your jobber's name.

**MIL-MAC MANUFACTURING COMPANY**  
1714 North Broad Street  
Philadelphia, Pa.



# TRIPLEXD

XXX GASOLINE HOSE XXX

TRADE MARK, REG. U. S. PAT. OFF.

*Every Length Guaranteed for One Year's Service*

## This Length of Hose Has Been in Service Over Three Years—

*and is still delivering  
clean gasoline*

IT has been in use since April, 1916 on one of a pair of Triplexd equipped portables belonging to H. Kergman, 2011 Foster Ave., Brooklyn, N. Y. It was photographed May 16, 1919. It is an example of the service capacity behind the Triplexd Guarantee\*.

Since last March this hose has delivered 14,834 gal. of gasoline. For three years it has worked in the open in all weathers. It is still leak-proof and delivers gasoline free from rubber sediment. The only signs of wear are the taped portion where the fabric has been worn by chafing against the tank.

**METAL HOSE & TUBING CO.**  
INCORPORATED  
250 Tillary St.  
BROOKLYN, N. Y.

\*Triplexd is guaranteed for one year's continuous service. Its average life is over two years.

**SERVICE  
GUARANTEE**  
We guarantee the length of hose to give one year's continuous service. Covering existing hose guarantee covers all cases except those due to accident or fire. If the hose is found to be defective after the filling and not resulting in an oil or gasoline leak, the hose will be replaced free of charge.  
**TRIPLEXD**  
GASOLINE HOSE

When writing advertisers please mention Motor World—it identifies you



# Baker Tire Covers

□ Highest Quality - Perfect Workmanship □

*Business Builders  
for Live Dealers*

*Catalog of Complete  
Line on Request*



Baker Tire Covers, on account of their adjustable features, are guaranteed to fit all Tires Perfectly. They are the kind that sell readily. Jobbers and Dealers are safe in stocking the Baker line.

We also manufacture complete lines of Awnings, Tents, Paulins, Tractor Covers, Flags and other Fabric Products.

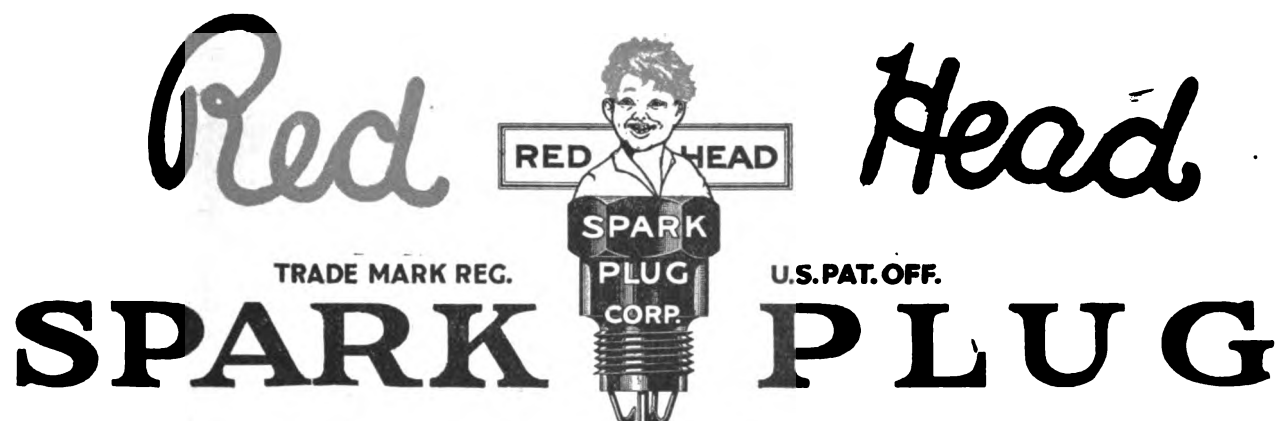
**BAKER & LOCKWOOD MANUFACTURING CO.**

KANSAS CITY FACTORY: 7th and Wyandotte Sts. NEW YORK FACTORY: 473-485 Kent Ave., Brooklyn



New York Factory  
now in full production.





## THE SHELL

The Shell of the Red Head Spark Plug is made from heat treated steel, carefully machined and gun metal finish. The "Big Boy" Red Head Plug has an extra heavy large shell and a large steel bushing with broad gripping surface.

From cap to spark gap the Red Head Spark Plug is a feature plug. Vitristone, the insulator, is better than the best porcelain. The nickel manganese electrode and firing points will stand the greatest heat any motor can produce. It is easily cleaned, the spark gap needing no adjustment after the core is returned to the shell.

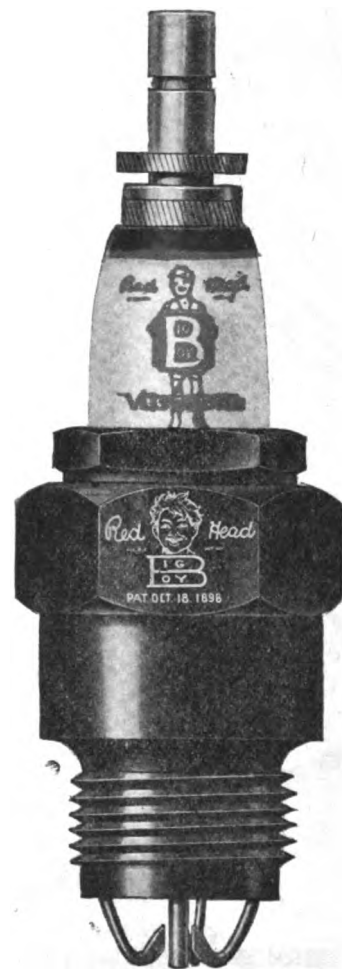
## Red Head Vitristone Spark Plugs

Reg. U. S. Pat. Off.

The line is complete—Standard Red Head, "Big Boy" Red Head, Standard Ford Red Head, Ford Priming Red Head, Red Head and Motorcycle Red Head.

These plugs move rapidly. Their advertised prestige is nation wide. Their records of endurance have made them popular.

Send for full information covering our liberal discounts. They are big enough to make you an enthusiastic Red Head Plugger.




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# RED HEAD SPARK PLUG CORP.

261 Broadway : : : : : New York, N. Y.

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Here is  
one reason  
why JUMBO  
dealers are  
so successful

THE C. W. MERYDITH CONTRACTING CO.  
(INCORPORATED)  
GENERAL CONTRACTORS  
El Dorado, Kansas  
April 10th, 1919.

Nelson Motor Truck Co.,  
Saginaw, Mich.  
Gentlemen;

You ask us what we think of our Jumbo Trucks. That is giving us a pretty hard job for we are so well pleased with them that it is hard to find expressions which would exactly fill the bill.

To begin with, we do not believe there is a field of work in the United States so exacting and so trying on trucks and drivers which have prevailed in the Mid-Continent under conditions which have prevailed in the roads have been in the worst condition ever known in this territory.

In our contracting business, taking care of some of the largest development companies in America, we cannot pick our roads and weather, but must deliver the goods "regardless", and the Jumbo two-ton truck is the one we always pick for.

Our experience with trucks has been very large and varied, purchasing and discarding as we have, more than a dozen of five different makes in the past three years, varying in price up to \$4000, until we have now decided to standardize on Jumbo. This decision was forced on us by the way our half dozen Jumbos have stood up under the strains of the past six months.

We have found the Jumbo Truck the most powerful machine we have ever used. It will take its load and more too, and pass up many trucks of more than twice its rated capacity. That especially pleases us is the low upkeep cost of the Jumbo, as proven by our records. We do not believe it costs one-fourth as much to operate one of your trucks, day in and day out, under hard working conditions as it does any other truck we have ever tried under similar conditions.

We appreciate very much the service policy of your Company and that of your local distributors. The Wichita Automobile Company, and believe that it comes nearer one hundred percent, perfect than any firm with which we have ever done business.

If there are any details as to behavior of the Jumbo Truck or its ability to stand the gaff under the worst kind of conditions that you may be interested in, please let us hear from you and we will give you any information at our command.

Yours very truly,  
THE C. W. MERYDITH CONTRACTING CO.  
By C. W. Merydith

### DEALERS

There isn't a single dissatisfied Jumbo user in the country that we know of. There isn't a single Jumbo dealer that is not making money. These facts should convince you that the Jumbo proposition is worth looking into. Write for details.

# JUMBO

## LOW UPKEEP COST

## IS SUBSTANTIAL PROOF THAT OVERSIZE CONSTRUCTION PAYS

The satisfaction of the C. W. Merydith Contracting Co., of El Dorado, Kans., is general among Jumbo users. Another Jumbo owner has received 30,000 miles of service from his truck without spending one cent for repairs. Even the original set of tires are still in use. Oversize construction, combined with use of the best units money can buy, is resulting in a greater freedom from repairs than even the most sanguine user expects. Jumbo trucks are fast proving the most economical and dependable transportation units in America. It is an honestly built truck—honestly sold, and every Jumbo truck is backed by a full year guarantee.

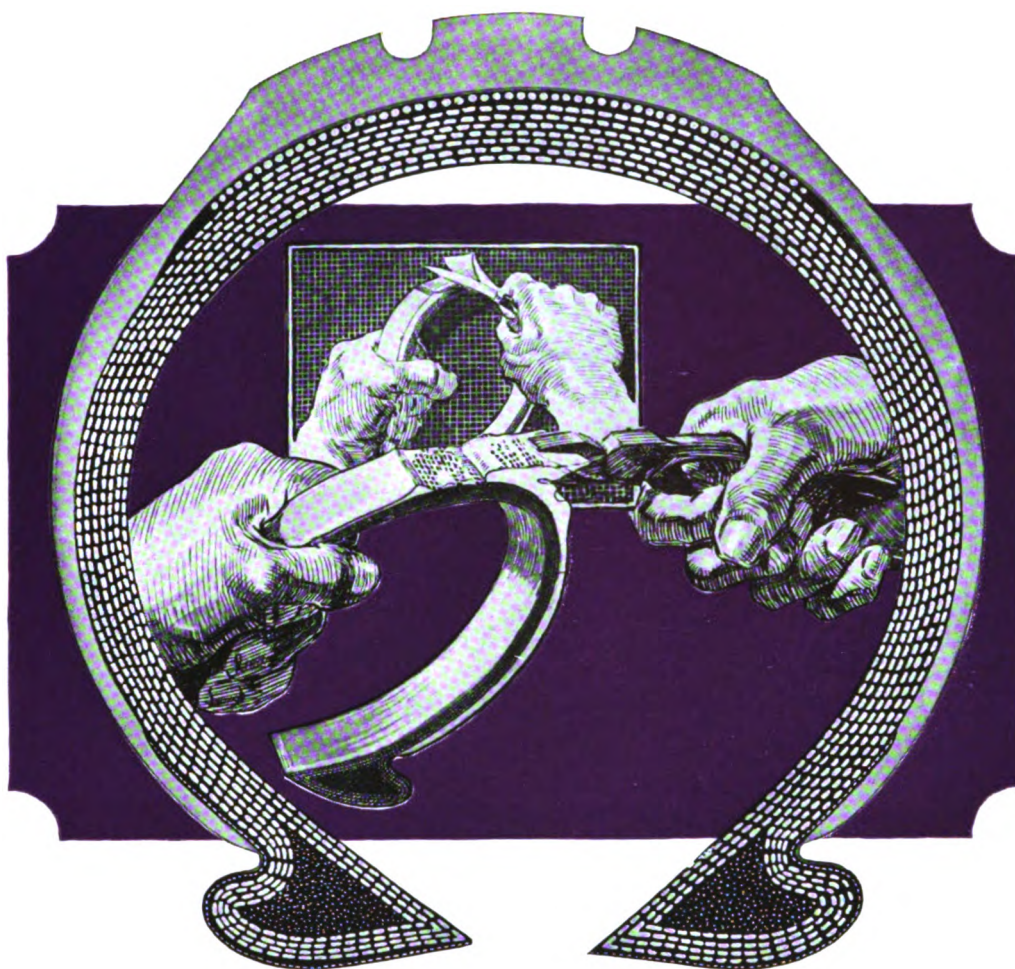
## NELSON MOTOR TRUCK CO., SAGINAW, MICHIGAN

New England Distributors and  
Export Representatives

JOHN SIMMONS CO., 102-110 Centre St., New York City

When writing advertisers please mention Motor World—it identifies you





# Three basic faults of average tires corrected

*Eight features that make the Thermoid Tire extra strong*

**B**EGINNING in 1915, four experts—two practical tire makers and two chemists—studied tires for every possible fault before attempting to make improvements.

They found that the disintegration and wear that tires suffer is largely due to a porous condition of rubber and that this condition results in three principal faults.

*The rubberized fabric, as a result of heat and friction, develops weak spots.*

*The tread being slightly softened, water, sand and oil gradually work in, and thus more rapid wear occurs.*

*In some instances, tread separation finally develops, resulting in sand blisters, peeling off of tread, blow-outs, etc.*

In March, 1917, the Thermoid chemists found a way to seal up the small pores existing in average rubber.

Crolide—the new material developed—is compounded with Up-River Fine Para rubber in four different ratios:

- 1—for calendering the fabric
- 2—for the cushion inside or below the breaker strip
- 3—for the intermediate bond between the breaker strip and tread
- 4—for the tread of the tire

This process means added strength and elasticity.

The Crolide Compound tread is 50% to 200% stronger than average rubbers, and yet a one-inch strip stretches to 7 $\frac{7}{8}$  inches.

In addition, several structural improvements were adopted.



# Eight special Thermoid features

1. The tire, in many sizes, contains one more ply of fabric than is put in standard casings. For example: 3½ inch casings are built with five plies of fabric, and 4½ inch sizes with seven plies.

2. The fabric used in the tire is woven from 17¼ ounce long-staple Sea Island cotton.

3. Between each layer of fabric there is an extra coating of Crolide Compound rubber—a special blend which makes the tire practically immune from fabric separation.

4. The cushion is also made of a special blend of Crolide Compound rubber. This stock has a tensile strength of 1500 pounds to the square inch,

even though it is unusually elastic.

5. The breaker strip is made of a specially woven fabric. When frictioned, it absorbs a maximum amount of rubber stock, forming with the adjoining rubber cushion a resistant to sudden shocks and road strains.

6. Between the cushion and the tread there is a different percentage of Crolide. This special intermediate mixed stock, graduated between tread and cushion, forms a bond which is tough.

7. The tread is of Crolide Compound rubber—extra thick—but not so thick as to be over-balanced, and yet, because of Crolide, far tougher.

8. The bead is held firmly in place by a special Thermoid interlocking arrangement of the plies of fabric.

## *To the trade*

We have adopted what we define as a "selling" proposition. We recognize the fact that the trade can *sell* as well as distribute and have worked out the scale of profits accordingly.

Write for full information about proposition.

If you are not making money on tires, or if you are making money but want to make more, you will find the Thermoid Tire and the Thermoid Sales Plan interesting.

**THERMOID RUBBER CO.**

*Factory and Main Office*

Trenton, New Jersey

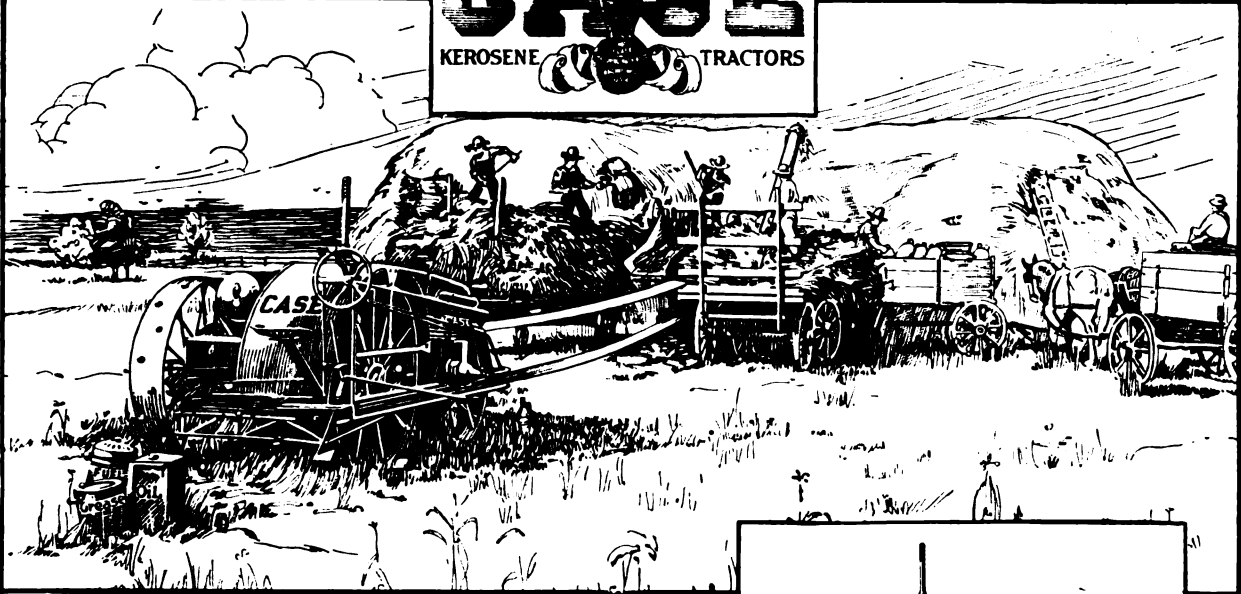
New York, Chicago, Boston, Philadelphia, San Francisco, Detroit, Los Angeles, Pittsburgh, London, Paris, Turin

## Thermoid CROLIDE COMPOUND TIRES

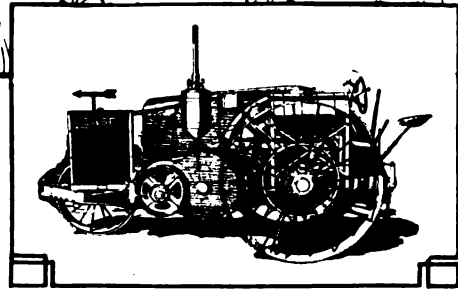


*You can't pull the tread off a Thermoid tire*





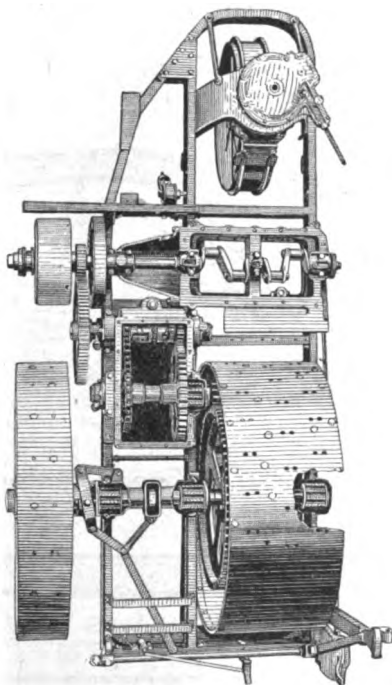
## This Compact, Powerful Tractor Favored By Farmers Since 1914



*The Case 10-20*

A popular tractor among all farmers is the Case 10-20. Its reliability, convenience and all-round adaptability were immediately recognized. Thousands were sold. Today it is a favorite wherever tractors are used.

Many more will be purchased for plowing, threshing and other work. Our numerous Case Branch Houses and many dealers are prepared to make immediate delivery. Foresight in manufacture and distribution has made ample provision to meet this demand.



*Chassis View of 10-20 Tractor*

The drawbar rating of the Case 10-20 is 10 horsepower. This is equivalent to 1,650 pounds pull while traveling  $2\frac{1}{4}$  miles per hour. But where unusual conditions demand it, this sturdy tractor can deliver 2,600 pounds pull at the drawbar. This fact appeals strongly to the farmer, who knows the advantages of the machine with *reserve power*.

For belt work its smooth, steady operation insures uninterrupted completion of every job. It will drive a Case 20x36 thresher with wind-stacker, feeder and grain handler.

The four-cylinder valve-in-head Case motor is mounted crosswise on the main frame. This permits the use of all spur gears. The belt pulley is located on the crank-shaft for convenience in lining up to belt-driven machinery.

There are other features, such as The Case Patented Air-Washer and the Syphon Thermostat. The Case name alone is a strong recommendation, for farmers know this famous line of power-farming machinery.

Write or wire the nearest Case Branch House or direct to our General Office for complete information. You can meet your customers' needs with this tried, well-known machine. It will bring you bigger, more completely satisfied trade.

**J. I. Case Threshing Machine Company, Inc.**

*Founded 1842*

1891 Erie Street, Racine, Wisconsin, U. S. A.



# Sell only Genuine *Stewart* parts for *Stewart* CUSTOM BILT NECESSITIES

"Look for the Red Tag"

A Red Tag like this is attached to *all* and *only* genuine Stewart Parts. It is for your protection as well as your customers. Demand it on the parts you buy.

## CAUTION

This tag is attached to all genuine Stewart Repair Parts.

## LOOK FOR IT!

If you don't find this tag, you are getting imitation substitute parts. Refuse to accept them.

The use of imitation parts on any Stewart Product, at our option, invalidates the Stewart guarantee.

For your own protection demand genuine Stewart Parts.

STEWART-WARNER SPEEDOMETER CORPORATION

Advertisement Number  
Four of a Series



## You Would Never Sell Another Imitation

—if you were in one of our Service Stations and heard the remarks when a car owner finds he has had palmed off on him an imitation part for a Stewart Product.

His remarks are not very complimentary toward the dealer that sold it to him, we can assure you. Can *you* afford to let this dealer ever be *you*?

Therefore, sell only  
**GENUINE** *Stewart*  
Replacement parts

We Sell Only  
**AUTHORIZED**

*Stewart*  
**REPAIR PARTS**

LOOK FOR  
THIS  
RED TAG



ATTACHED TO  
ALL GENUINE  
*Stewart* PARTS

Stewart-Warner Speedometer Corp.  
Chicago, U.S.A.

"Hang up this Sign"

This sign is your public certification that you do not deal in imitations. Will be sent free for the asking. Is made of steel, beautifully lithographed in three colors and embossed. Size, 14x20 inches. All ready to hang. Very attractive. Order yours today!

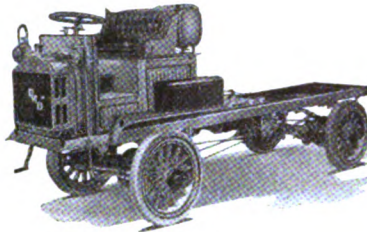


# Reducing Dealer's Overhead —Increasing His Profits



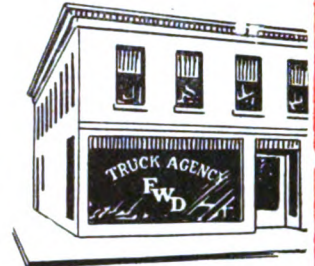
One Stock of Parts

+



One F-W-D Model

=



F-W-D Dealer's  
Entire Merchandise  
Investment

WITH *one* F-W-D model and *one* stock of parts the F-W-D dealer covers a bigger market than he can with a full line of rear drive trucks. Seven out of every ten trucks, from 2 to 5 tons, built last year came within the range of the F-W-D's carrying capacity. The F-W-D is the most economical truck for all ordinary hauling in city or country, and it gives the dealer a big market in special service where it has no rival. It reduces the dealer's overhead expense by:

*Confining his investment in trucks for show floor purposes to one model.*

*Reducing the size of his show space.*

*Lowering his sales and service expense through concentrating on one model and—*

*Cutting down his investment in stock of parts at least two-thirds.*

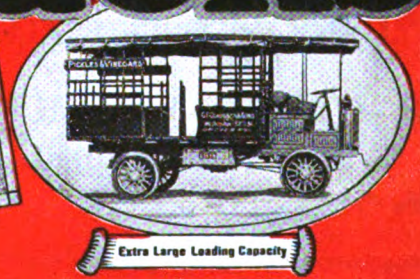
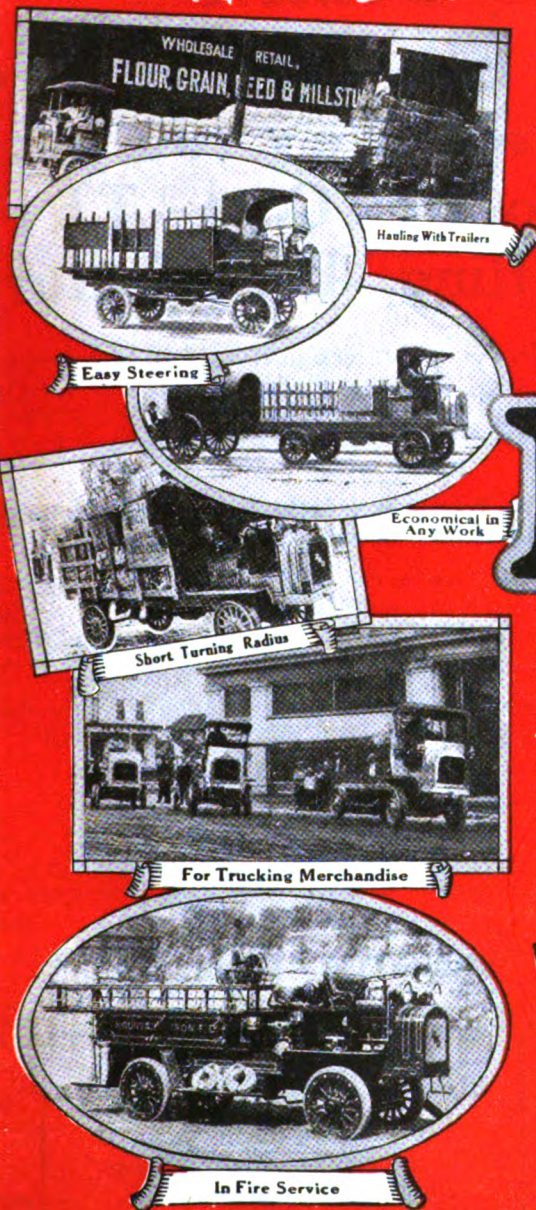
Built by a great, permanent organization with an international reputation. Backed by the largest advertising campaign. Send for our proposition.

**The Four Wheel Drive  
Auto Company**

Dept. P Clintonville, Wis.  
Canadian Factory: Kitchener, Ont.

# FWD Trucks

*First Through the Traffic*







**SUPERIOR MERIT POINT No. 5**

**Dealers—**

**When selling the  
Peteler Jack,  
Point Out This  
Lifting Bar Feature**

**COE-STAPLEY**

**Peteler  
AUTO JACK**

### DESIGN FEATURES

A telescope handle that makes it unnecessary to crawl under the car.

A short stroke. No overhang of the car can interfere with the action.

The quickest stroke known in jack design ( $\frac{3}{8}$  inch to each stroke).

A jack weighing  $8\frac{1}{2}$  pounds with a lifting capacity of 3,000 pounds— $\frac{1}{2}$  ton over capacity.

Here is a small design item but a highly important one. Note that the head of the bar is slightly concave. This seats the axle securely. It cannot slip off, and if not correctly seated, it will adjust itself.

**The Peteler Jack is the best seller in its field—simply because it is the best jack.**

You show a car owner that he can raise and lower the car—and then remove the jack without releasing the handle. *He will buy on that feature alone.*

Now add to your demonstration talk, the items of design and construction noted on the left.

**This Peteler Jack  
Sells for \$6.50**

There isn't a dealer reading this, who will fail to see the tremendous sales possibility among car owners in his territory.

**MANY UNFORCED SALES—GENEROUS PROFITS. WRITE FOR THE BIG STORY**

**COE-STAPLEY MANUFACTURING CORPORATION**

**Factories, Bridgeport, Conn.**

**Sales Offices**

**136 Liberty Street, New York**

### DEALERS

If *your* Jobber, Perchance, cannot give you the Details we will Furnish Them.



## Campbell Fan Belts



This is the famous Latigo Fan Belt for Ford Cars. It is made of the famous Latigo leather and is impervious to heat, oil and water. Friction cannot burn it, wear cannot harden it and it will not stretch or slip.



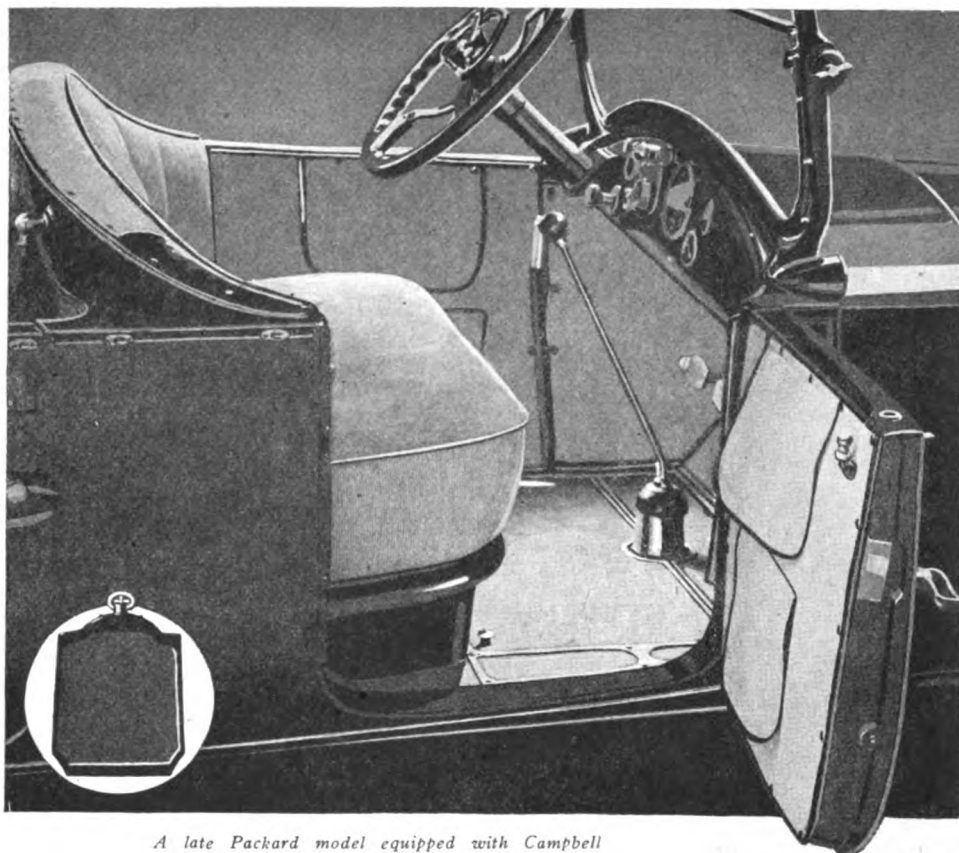
The new reinforced Latigo Fan Belt is made of special waterproof ducking, scientifically folded and stitched to Latigo leather with rows of heavy thread stitching. Wonderfully durable.



The Campbell Coded Fan Belt for Ford Cars is a really non-stretchable belt. It is made of waterproof canvas interwoven with a series of eight cords and then stitched to leather for pulley facing. Will not stretch or run off.



The Campbell V-shaped Latigo Belt successfully meets the demand for a belt of this kind. It is made of three plies of heavy Latigo and held together with leather thongs. There is no chance whatever of ripping.



*A late Packard model equipped with Campbell Detachable Upholstery.*

**Here is an accessory that  
brings in handsome returns  
and you tie up no money in stocks**

Campbell Detachable Upholstery should be doubly interesting to every live dealer. First, you sell it without tying up any money in expensive stocks. Sales are made entirely from a swatch booklet. Our large manufacturing facilities and immense reserve stocks insure quick deliveries.

Then, there is Campbell quality. If you have ever seen this Seat Cover de Luxe you know what that means. You have probably noticed the fine motor fabrics used, the perfect and permanent fit, the broad, heavy

binding, the reinforced seams and the special Campbell-Carr Durable Fasteners that always work.

Campbell Detachable Upholstery gives perfect satisfaction because of this attention to details—because of its long-wearing qualities. It should not be confused with cheaper seat covers.

If you are interested in quality goods that make friends of your trade—if you are interested in an accessory that brings in better than usual returns—drop us a line and we will give you the complete facts.

**The Perkins-Campbell Co., 625 Broadway, Cincinnati, Ohio**

### DEALERS!

Send for our catalog of quick selling leather and textile automotive accessories.



**Campbell**  
ESTABLISHED 1879  
DETACHABLE UPHOLSTERY





# The grip of the Hewitt *non-skid* Cord

THE Hewitt non-skid Cord has a happy grip on the hearts of users, dealers and distributors.

And it *grips* the road with a safety that makes the driver glad.

Permanent tire business can be built only on such quality as is built into Hewitt Tires.

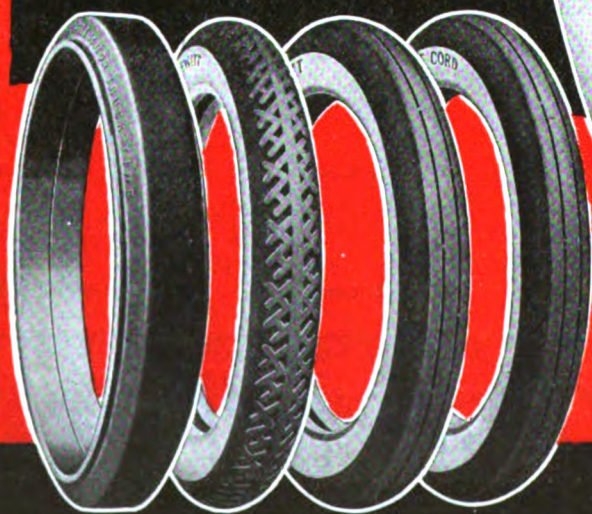
HEWITT RUBBER COMPANY

Factory and Executive Offices at Buffalo, N. Y.

New York  
Chicago

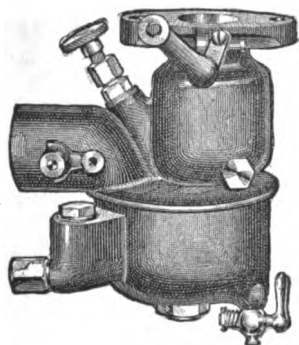
Boston  
Denver

Philadelphia  
San Francisco





# KINGSTON CARBURETORS



## *Special Model for* **MAXWELL CARS**

**M**R. MAXWELL OWNER, if you would know the joy of a smooth, flexible, dependable carburetor—a carburetor that does not give trouble, that **always** functions satisfactorily, that picks up quickly—a carburetor that gets the last atom of power out of the fuel—equip your car with a Kingston Special. It was made for the Maxwell.

Thousands of Maxwell owners have bought them during the last month, and have been more than repaid.

The Kingston Special will more than pay its own way in the fuel that it saves, to say nothing of the life and power and flexibility that it adds to the motor.

This carburetor is sold on a positive guarantee. It **must** make good or your money goes back—and you are the sole judge.

The price, with warm-air stove attached, is only \$11.00. Order through your dealer; but if he can not supply you, send the amount to us and the Kingston Special will go forward by parcel post.

TO DEALERS—Now is the time to take advantage of this big demand. Write for special proposition.

**BYRNE, KINGSTON & CO., Kokomo, Indiana, U. S. A.**

BRANCHES: New York City, 1733 Broadway; Chicago, 1430 Michigan Avenue; Detroit, 870 Woodward Avenue; San Francisco, 1235 Van Ness Avenue; Boston, 15 Jersey Street



# The Visible Spark is the Built-in Intensifier



The jump spark is plainly visible through a "port hole" or window as noted on the illustration. It serves the double purpose of allowing ignition to be *seen* instead of "guessed at," and functioning as an intensifier. This design positively prohibits carbon.

Consider the mica wound terminal rod. Even in the remote event of porcelain breakage there can be no short circuit—no compression loss.

Add now the porcelain quality (we use "775"—the world's best grade). This makes the "Pittsburgh Visible" practically unbreakable.

There is not a weak spot in the plug—nothing that will bring a dissatisfied car owner back with a complaint.

## THE ORIGINAL PITTSBURGH VISIBLE SPARK PLUG

sells and stays sold. Those who equip with it advertise its staying qualities, and so it becomes, in a great measure, a self seller.

You can build a large and increasing spark plug business in exclusive territory we are prepared to assign you, if you will actively demonstrate the Pittsburgh Visible—explaining *why* it cannot "lie down on the job."

We have a proposition, most interesting from a discount standpoint. This in connection with the superior selling points of the plug ought to make you a plugger for the "Pittsburgh Visible Spark." Write for the information. Added attraction—We pay the war tax.

The greatest improvement in any spark plug ever made is the adjustable gap—the exclusive idea incorporated in the Original Pittsburgh Visible Spark Plug—adjusted without removing the plug from engine.

**Sold direct postpaid if dealer does not handle.**

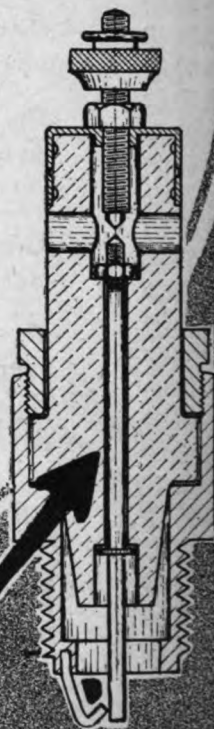
**Retail Price \$1.50**

**Pittsburgh Visible Spark Plug & Mfg. Co.**

460-68 Melwood Ave.,

Pittsburgh, Pa.

**\$1.50**





# Allen

*Presenting the New \$1295  
Touring Car to the Trade*

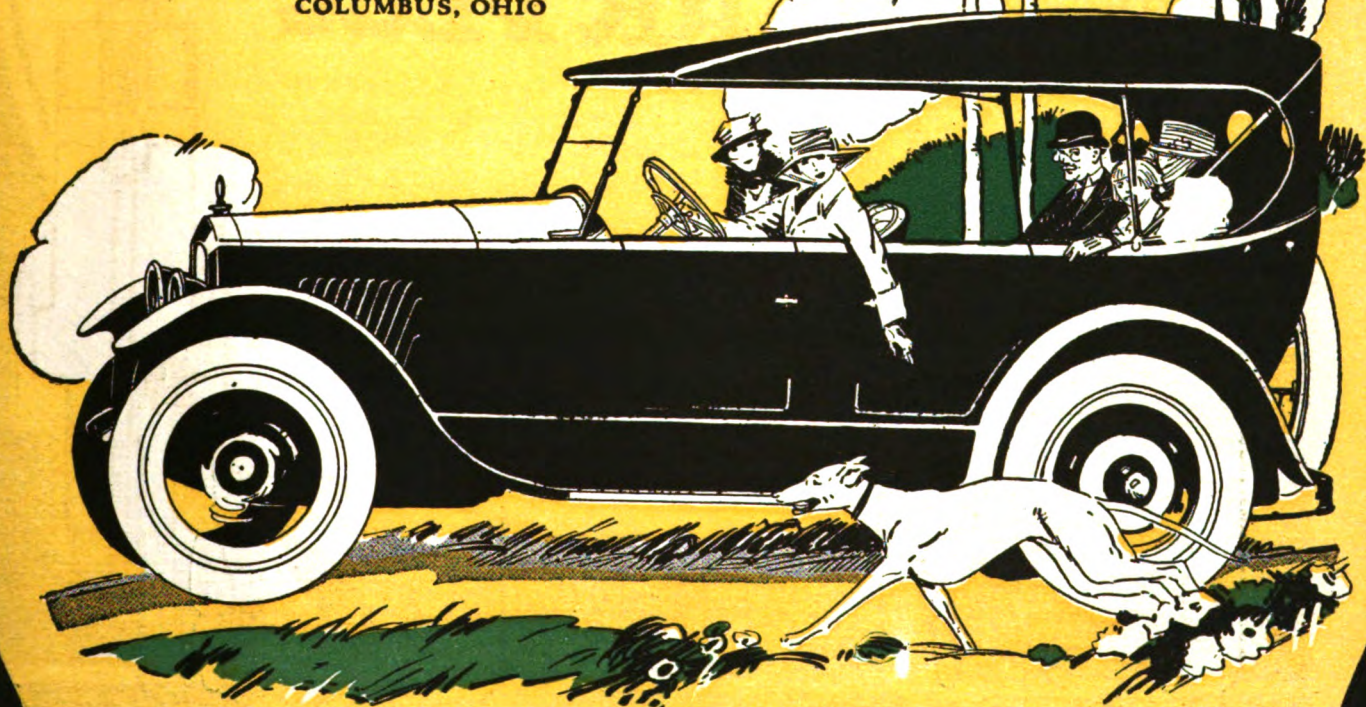
## **ALLEN DEALERS WILL PROFIT BY OUR PUBLIC CHALLENGE**

**I**N a two-page advertisement in July 12th Saturday Evening Post we challenge any car to out-look this new Allen or to out-do it in actual performance. Unfraid, we smilingly dare the car prospect to compare the smooth and silken-actioned Allen with what he regards the best performing car on his automobile row.

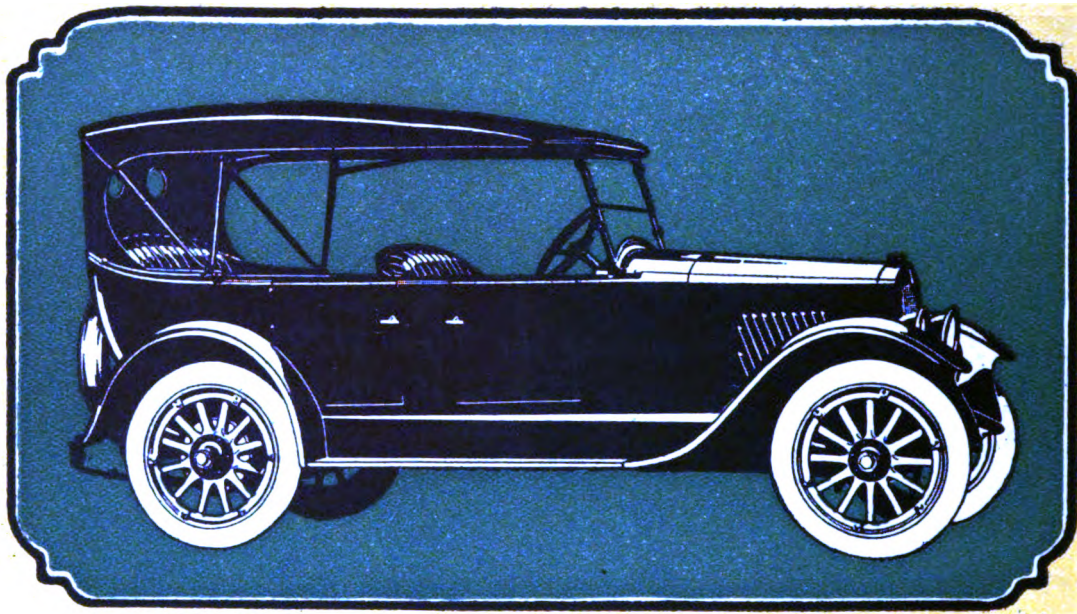
We urge the buyer to go to the dealer for a test ride which will prove overwhelmingly convincing because this new Allen looks and is the smartest and best performing automobile in the popular priced field—as quick as a cat on the throttle, and with so much power for its weight that it playfully romps past anything that pretends to dispute its cunning.

When the prospect comes to the Allen dealer for his test-ride this new Allen car can be depended upon, absolutely, to do its own selling.

**THE ALLEN MOTOR COMPANY  
COLUMBUS, OHIO**







*New Allen Touring Car, Five Passenger (Series 43)  
\$1295 f.o.b. Columbus, Ohio*

**We follow precisely the same method in presenting this new Allen to you, a dealer, as we do in our public appeal.**

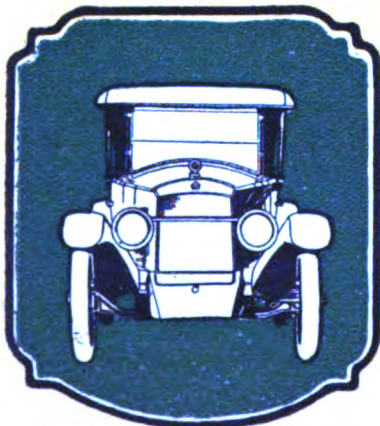
We say to you,—see the car, ride in it. The new Allen, itself, is its own strongest salesman.

We don't stress the price nor any conventional specifications, for this new Allen doesn't shine on paper nearly as brilliantly as it does in actual flesh-and-blood comparison.

This new Allen is a living exponent of brainy designing. It demonstrates absolutely, that long wheelbase isn't the only means for getting riding comfort. This car proves what you've believed all along, that it doesn't take extravagant construction to make a car truly beautiful.

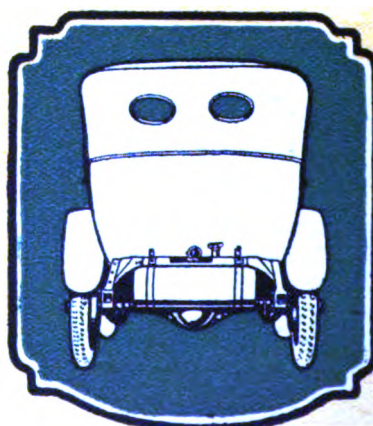
This Allen shows in an utterly unanswerable way that without brutish power it can economically and with unfaltering ease clip off the miles at any sane pace—say 25 to 45 miles an hour—without tiring the driver or jouncing the passengers.

What this faithful, sweet and even tempered car does provide is this:—more comfort and good looks than you've ever known under two thousand dollars, and the quick playfulness to out spurt big cars, to go around them in mud, and to pass them on the climb.



If you think these claims too good to be true, we suggest that you take your skepticism to the car and then pass judgment. You know real value. You can't be fooled by any worded combinations of the alphabet.

**BUT** if you find, as you surely will, that this new Allen is one of the very few real "sensations" of 1920, then it is up to you to bid for the Allen proposition.

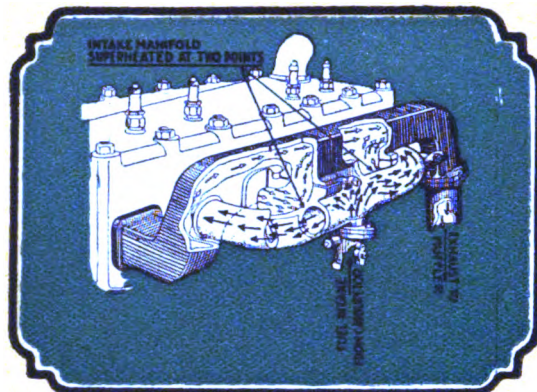




The new Allen is a remarkable performer because its design is scientific. It is engineered with a nicety that has not heretofore been applied to the moderate-sized popular priced car. We give a few specific instances:

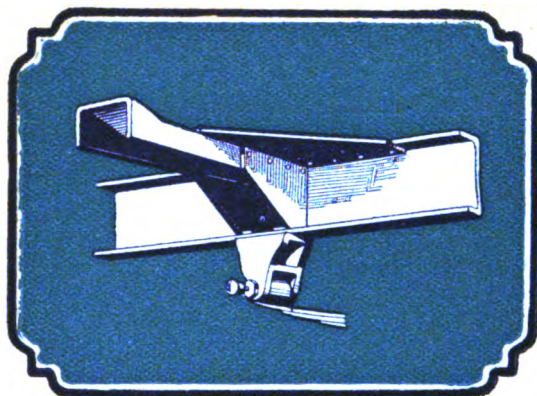
### *Superheated Intake*

The auxiliary air goes into the carburetor *heated*, after which the mixture, on its way to the cylinders, is super-heated in the intake which is in direct contact with the exhaust manifold at *two* points. The application is a step beyond any similar system and gives to this new Allen motor extraordinary acceleration, unusual speed, exceptional economy and the ability to readily digest low grade gasoline.



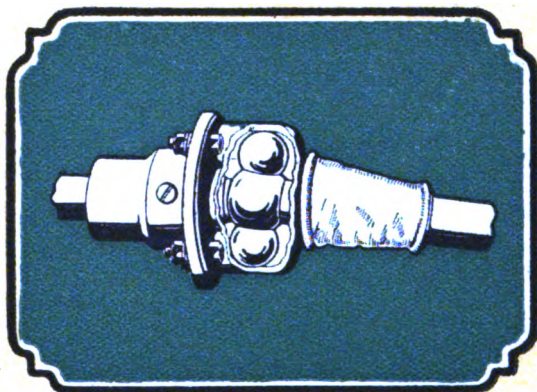
### *Rigidity of Frame*

The new Allen bridge-girder-construction frame is so stout that it actually does what a good frame should do:—it withstands all strains and road abuse and holds the body stiff and rigid—thus doing away entirely with body creaks, rattles and sticking doors—a type of construction in strong contrast with the ordinary frame which to a considerable extent depends upon the body to stiffen *it*.



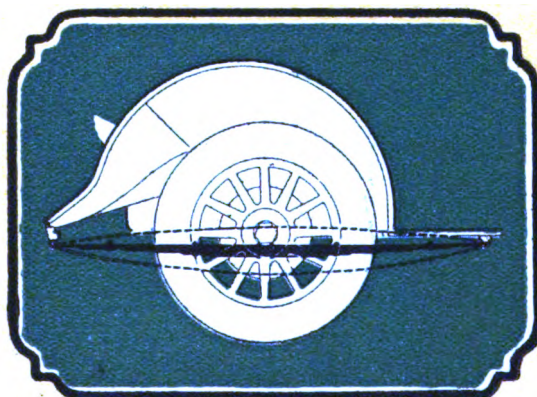
### *An Ideal Universal Joint*

To a far greater extent than most people appreciate, smooth and unlabored car movement, is dependent upon good universals. The large ball rolling type universals on this new Allen operate with precise smoothness—no back lash—absorbing a minimum of power.

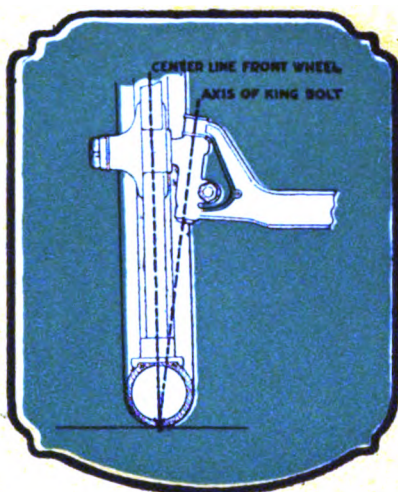


### *Reboundless Spring Action*

Because the springs are the longest in proportion to wheelbase, are nearly flat, and because of a fine gradation of the leaves, this new Allen either light or loaded, rides chuck holes and inequalities with a smoothness and lack of rebound that is almost mystifying. In conjunction with its deep upholstery, ample leg room and nicely scaled seat angles and dimensions, this car gives passenger comfort formerly unknown in its class.

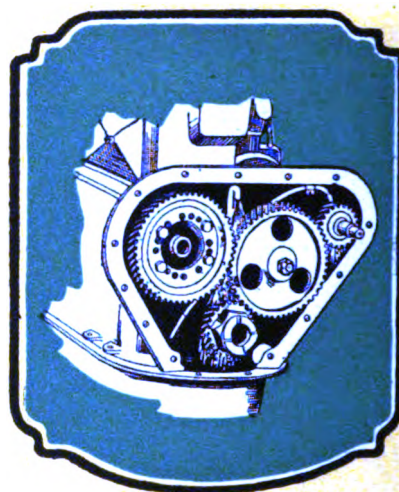






### *Ease of Steering*

This new Allen might be called a "wristy" car because it responds so easily to its wheel,—a car that women can safely drive, and one whose ease of control will be appreciated on the long tour. The front wheels are "dished" just enough so that the king bolt or steering knuckle pin axis goes through the point of tire contact,—the mechanical reason why it steers so easily.



### *Good Lubrication*

Oil is pumped at twelve pounds pressure to every bearing while the timing gears get a constant "shower bath" of oil. Proper lubrication of the spring bushings is provided by *oil* cups—instead of grease cups.

## *"A Fifty-Fifty Proposition"*

Dealers are competing for the new Allen proposition because it represents—we believe and they believe—the strongest sales opportunity in its field.

This company is entering its eighth season under highly favoring circumstances, having bought two big factories in Columbus, Ohio, now equipped for large sales production. We make our own motors and transmissions and in other respects are on a sound basis for materials and parts. In spite of a generally acknowledged car shortage, we are now making deliveries in quantity.

We seek the finest type of automobile merchant only—the kind of dealer who can command the best car in its class for his territory.

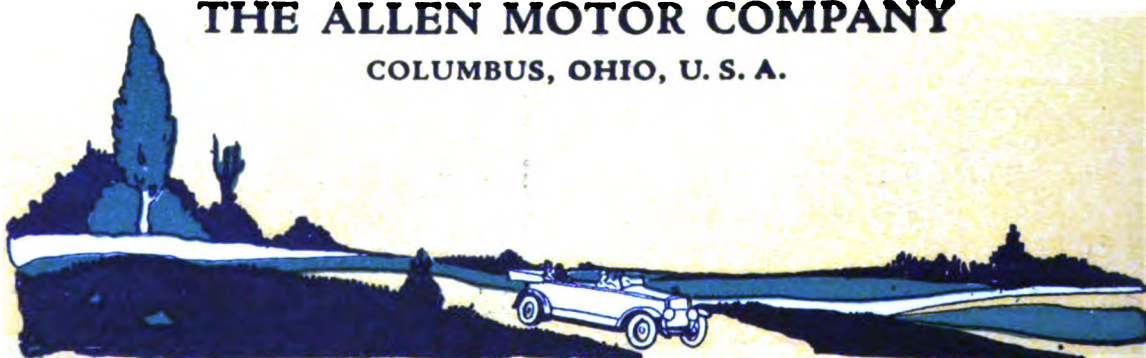
We're now looking for him and he's looking for us. It's a "fifty-fifty proposition"—so that both of us must take the necessary precautions to be sure the tie-up is mutually profitable and permanent.

We are sure *our* proposition will pass all tests. If you feel the same way about *your* qualifications as a dealer, we can get together as soon as you write and make yourself known.

*Address Sales Department*

**THE ALLEN MOTOR COMPANY**

COLUMBUS, OHIO, U. S. A.







**THE SIGN OF A LIVE DEALER—**  
 who will replace this broken spring with a



**and thereby guarantee satisfaction.**

Stan-Par stands for experience, capacity and dependability. It is the trade mark of a company whose various plants, under the familiar names of Perfection Spring, Cleveland-Canton, etc., have been pioneers in the manufacture of Springs and other essential parts for the automotive and vehicle industries.

The dealer who handles Stan-Par Replacement Springs has behind him the prestige, the experience, and the manufacturing facilities of a company which has six great spring plants supplying the original spring equipment for seventy per cent of the leading motor cars and trucks.

*A very interesting 1919 spring  
 proposition is ready for dealers.*

*Write us.*

**THE  
 STANDARD PARTS  
 COMPANY**

Jobbing Division

Cleveland, Ohio



# Why Start a Tractor This Way



**W**HY pull and tug—strain yourself—run the risk of a broken arm in cranking a great, high compression tractor motor, when there is such an easier, simpler way?

Remy starting equipment makes the most powerful tractor motor as easy to start as any modern automobile. Just turn on a switch—the motor is spun—the power begins—and your tractor is ready for work.

First, Remystarting equipment effects an actual money saving. Ordinarily, when stopping your tractor to fix the plows, fill the seeder, fix the binder, fill the radiator tank, etc., you let the engine run idle rather than stop it and go to the hard work of starting it again. The actual saving of fuel cost effected in this way amounts to many dollars during the season.

Second, with the Remy starter a boy can handle the tractor continually throughout the day's work. This effects a very appreciable saving in labor.

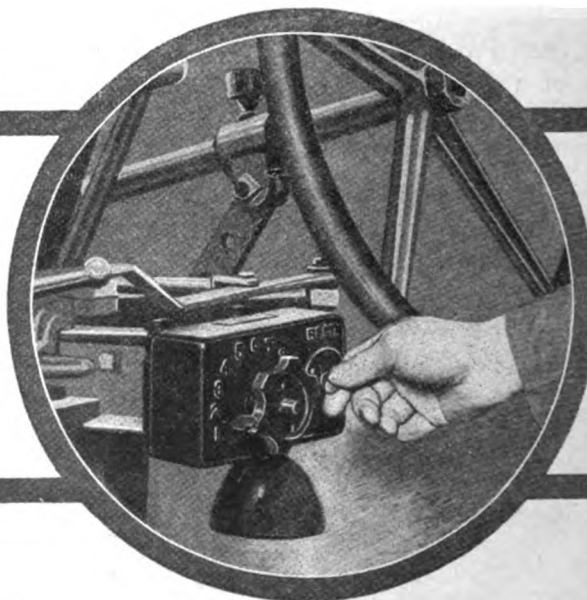
And beside all this, the electric lighting feature of Remy equipment doubles the daily capacity of the tractor; while the Remy electric governor-generator keeps the engine running at even speed under all loads, and makes it impossible to use more fuel than is required for the job at hand.

Remy starting, lighting and ignition systems are standard on the Moline Universal tractor. You can secure Remy equipment on your tractor if it is equipped with the later models of Buda, Waukesha, Beaver, Wisconsin, R. & V. or Erd motors. Write for full particulars.

## REMY ELECTRIC COMPANY

Tractor Equipment Division, Chicago  
Motor Equipment Div., Detroit      Factories: Anderson, Ind.

# When You Can Start It This Way



# REMY

TRACTOR STARTING LIGHTING & IGNITION





## *Send for*

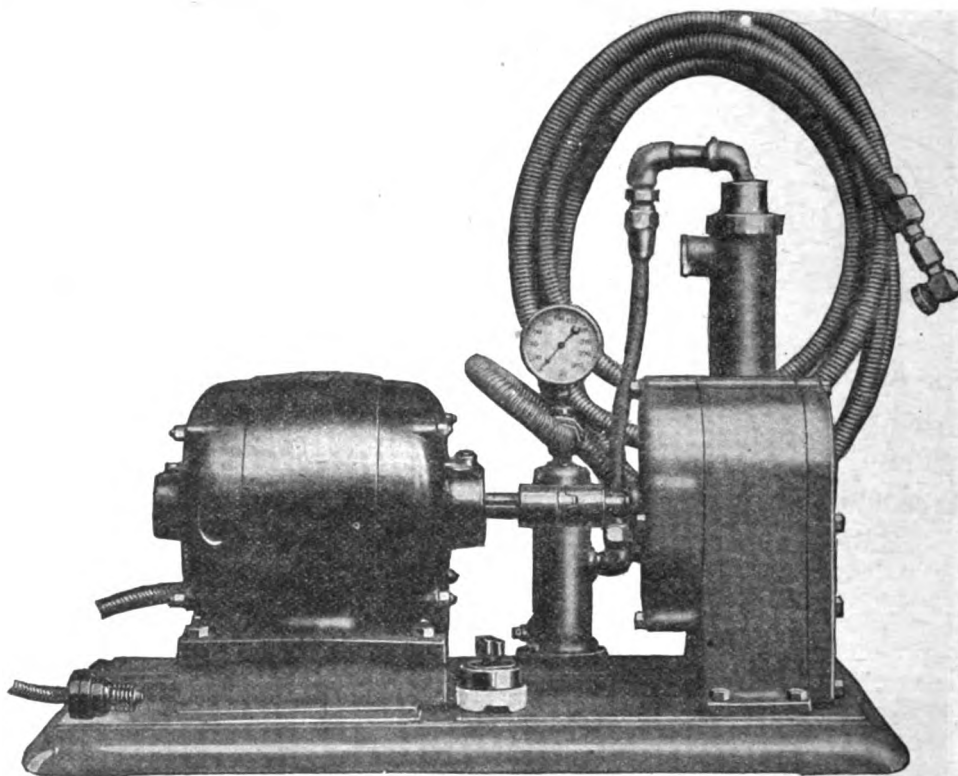
a copy of this latest and most comprehensive piston ring size directory, if you have not already received one by mail. It is just off the press. We flatter ourselves that every automotive products dealer will realize the value of this book when he sees a copy. It is handy, full of information and the listing of the piston ring sizes is arranged in such a simple way that there is no difficulty in immediately locating the data on any ring desired. The book is FREE to automobile and accessory dealers and garage owners. To the public it is priced at 25 cents.

Remember that the Gill is the PERFECT ONE-PIECE PISTON RING, the ring with the double-step interlocking joint, a real attainment in piston ring construction.

**The Gill Manufacturing Company**

351 West 59th Street  
CHICAGO, ILLINOIS





## The "LongStroke" Compressor

**Gets Its High Efficiency Through a Unique Valve Arrangement and a Special Construction Which Permits a Full Six-Inch Stroke—Perfectly Simple Mechanical Devices—But No Other Compressor Has Them**

The LONG STROKE Compressor is entirely different—a radical, definite improvement over any other make of compressor heretofore produced.

It fills a tire twice as fast because it delivers twice as much air at every stroke—completely fills and completely empties its cylinder.

**Same Price as Others  
But Twice as Efficient**

The improved design of the LONG STROKE Compressor is what does the work. It does not cost any more. So we can sell it for the same price as other compressors.

Its secret lies in its long six-inch stroke and unique valve arrangement, permitting the cylinder to entirely fill on the suction stroke and completely empty on the discharge stroke. In other words, the valve clearance is practically done away with and the full capacity of the pump, both in power and quantity of air delivered, is used.

**Fills Tires in  
Half the Time**

The LONG STROKE Compressor fills a 30 x 3 tire to 60 lbs. pressure in 28 seconds! A 30 x 3½ to 70 lbs. in 49 seconds! A 35 x 5 to 90 lbs. in 2½ minutes!

These are facts—not theoretical conclusions reached

by measurement of the cubic dimensions of cylinders. We have actually filled these sizes of tires in the time given.

**Nickel Steel Hardened  
and Ground Parts**

This compressor is carefully made of the best materials. The crankshaft is nickel steel, hardened and ground. The reduction gears are all nickel steel, hardened, fully enclosed, running in oil.

**Roller Bearings—Runs  
Easier, Lasts Longer**

With Roller-type crankshaft bearings, hardened and ground, running in a hardened and ground raceway; Bushings of "Non-Gran" Bronze, the best obtainable; all parts perfectly fitted within close tolerances—the LONG STROKE Compressor lasts a long time in perfect condition, is never out of order, runs easily, with a smooth, powerful action.

**Jobbers, Dealers, Garagemen**

This Compressor has no rival. Write at once for full particulars, prices and terms. We will give territorial rights, profit-making terms, quick deliveries and satisfactory service to those who apply in time.

**The MOTOR-COMPRESSOR Co.**  
*Makers of Starting Devices and 2-Stage Compressors*  
**52-60 DICKERSON ST. NEWARK, N. J.**



**\$ 1695****"A CAR OF RARE BEAUTY"****Continental****Motors****Delco** STARTING  
LIGHTING  
IGNITION*Stewart*

## The Sayers Six is Built by Specialists

Each individual unit of the Sayers Six is the work of men who specialize on that particular part and who are recognized as leaders.

Look them over and you will find such names as Continental, Delco, Borg & Beck, Stewart, Boyce, Willard, Fedders and many others. What other car of like price can claim such a complement of standard parts?

And combined with the forty year experience of the Sayers & Scovill Company in making quality vehicles, the Sayers Six is an automobile as

near perfect as a mechanism of this kind can be.

The bodies are made by expert coach builders, seventy-five per cent of whom have been with us at least fifteen years.

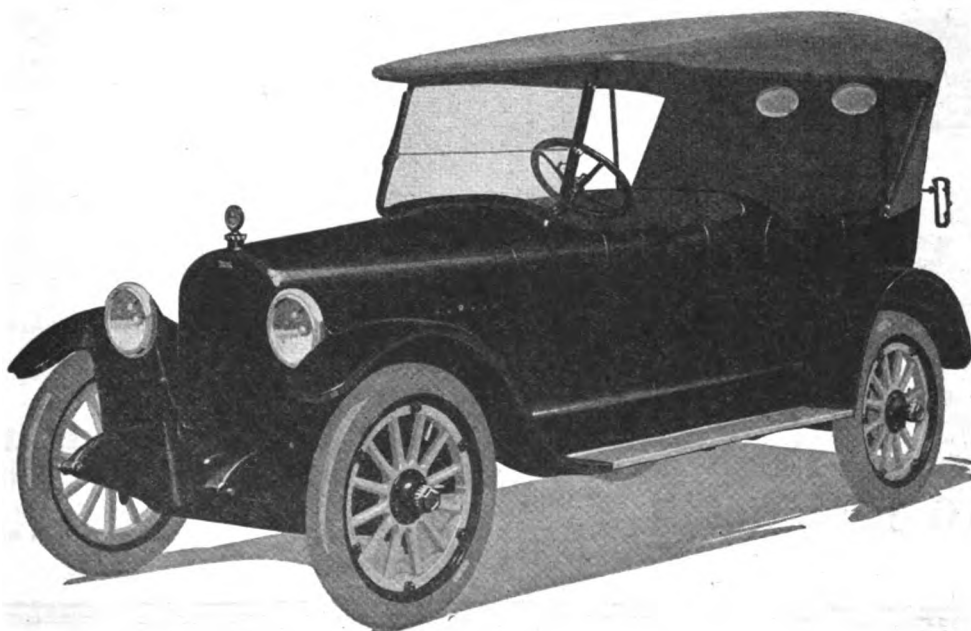
The painting is done by hand and allowed to dry in evenly tempered rooms. This insures a durable, lasting finish.

From radiator to tail light the Sayers Six is an aristocrat among medium priced cars. It has real sales value. Write or wire for full particulars today.

## THE SAYERS & SCOVILL COMPANY

Gest and Summer Streets, Cincinnati, Ohio

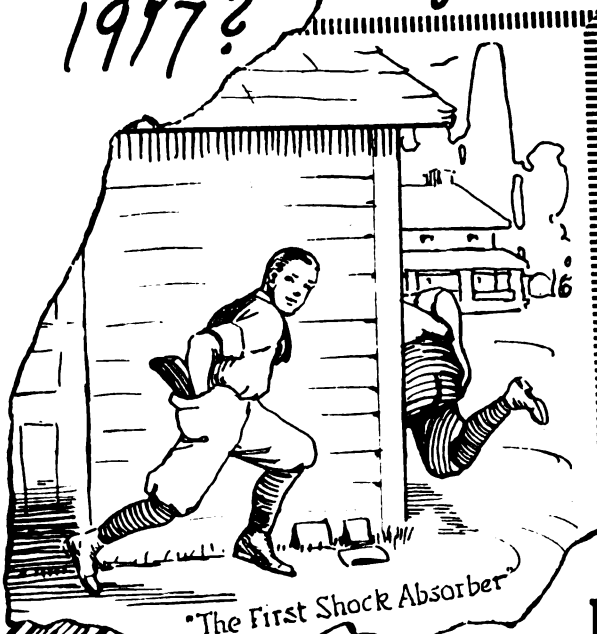
ESTABLISHED 1876





*Do you remember  
in January  
1917?*

January 4, 1917



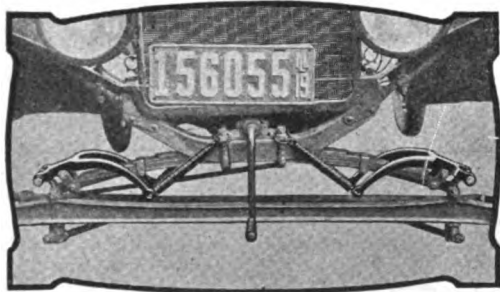
**It is Not Because**



**Shock Absorbers  
Are Old That They Are Good**

**It is Because**

**They are Good That They are Old**



**W & C**

**The Original Double  
Arm Shock Absorber  
for Fords—Price Still  
\$10 per set of 4**

It takes years of continuous service to make a Shock Absorber standard. It takes a good Shock Absorber to withstand the test of time.

W. & C.—the original Double Arm Shock Absorber for Ford cars—is a little more than three years old. Over 200,000 sets are in service today.

Ever since the dealers first started to handle W. & C. Shock Absorbers their sales and profits have been steadily growing. Ever since jobbers started to catalog them they have been ordering and selling more and more as the months pass by.

There is a reason for the continued and growing success of W. & C. Shock Absorbers—quality, principle, and the ability to give satisfactory and lasting service on the road. W. & C. Shock Absorbers are built with bronze bushings and Hard Oilers. Their principle is that of cantilever spring suspension. The result is popularity that jobbers and dealers can measure in always growing and always easier profits, that Ford owners can measure in the kind of satisfactory service they have always hoped for and never before attained.

In three years, over 2,000,000 sets of W. & C. Shock Absorbers have gone into service and stayed there—and the field for sales is only scratched.

**DEALERS:** Extra Profits Worth While Are There For You If You Say W. & C. To Your Jobber. He Knows.

**P. H. Webber Company**

Hoopeston

Illinois

Chicago Sales Dept.

STAFF & ECKHOUSE

616 South Michigan Boulevard



# SPEED

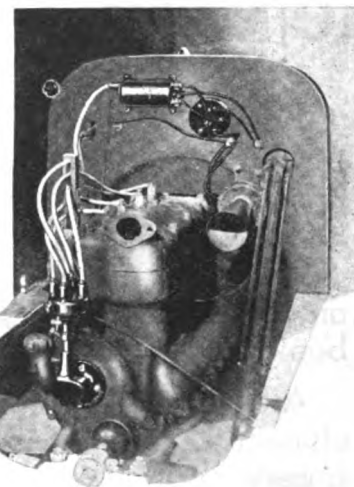
*We have made it possible for Ford owners to put their motors into the same "efficiency class" with much higher priced cars. The attachment of the Philbrin High Frequency Ignition for Fords makes this remarkable transformation.*

**S**PEED is increased — The old sluggish Motor converted into a snappy, powerful engine that will take you speeding, many miles faster than you ever traveled before in your car. Hills that formerly caused the motor to labor hard, are taken easily "on high."

This ignition system takes its current from the Magneto. It delivers not one, but a shower of high tension sparks into each firing chamber.

Combustion is made complete, lean mixtures develop high efficiency and your fuel economy is pronounced. Does away with batteries. You can carry them for use in case of magneto failure. Otherwise they are not needed.

The Philbrin System insures instant, complete ignition. You get the power out of every drop of fuel. This means more miles per gallon



and a season's saving that will pay for the device several times over.

This system is growing in popularity. Put it on your car and you will wonder how you ever got along without it.

Ask us to tell you more about the Philbrin Ignition for Fords. Write today.

*WE OFFER DEALERS a splendid sales proposition. Every Ford Owner is a prospect.*

*NOW is the time to add this profitable fast selling device. Simply write and say "Show me."*

**PHILBRIN**  
*Reliable*  
**for IGNITION FORDS**

**Philips Brinton Company**

**503 S. Broad St., Kennett Square, Pa.**

When writing advertisers please mention Motor World—it identifies you





# The One Top That Sells New Cars

There is only one top made that influences the sale of new cars for distributors and dealers.

That top is the Rex All-Seasons Top, pleasing to the eye and easy on the automobile buyer's pocket-book.

All other tops are auxiliary in character, intended only for temporary use on touring cars and roadsters already in service. They lack Rex beauty and Rex adaptability.

The Rex All-Seasons Top is a permanent top, specially designed and built to fit the many makes of automobiles on which it is applied.

This means that the Rex All-Seasons Top not only fits and harmonizes with body lines and dimensions, but it is also a most practical means of converting new touring cars and roadsters into handsome sedans and coupés of unlimited utility.

These Rex-equipped sedans and coupés are so moderately priced

that they fall well within the means of the average automobile buyer.

And at least eight out of every ten prospects that visit your salesroom are average automobile buyers. They are men and women that want that comfort and shelter that the closed car provides but feel that they cannot afford them at the price of the solid-body sedan or coupé.

But you can give them this comfort and shelter at the price they are ready to pay by selling them new touring cars and roadsters, Rex-equipped

The purchasers of these Rex-equipped cars will never be ashamed of them or dissatisfied with them, for the Rex All-Seasons Top engenders pride of ownership and satisfaction.

Thus, you build good will by added profit sales.

**REX MANUFACTURING COMPANY**  
CONNERSVILLE, IND.

*Direct Factory Representatives:*

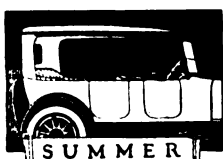
The American Distributing Co., Book Bldg., Detroit, Mich.

Manufactured under license in Canada by Carriage Factories, Ltd.,

Main Office: Excelsior Life Building, Toronto



**SPRING**  
Rain protection—jiffy curtains in place.



**SUMMER**  
Complete ventilation—all panels removed.

# Rex

**ALL-SEASONS TOP**

MANUFACTURED AND LICENSED  
UNDER OUR OWN BASIC PATENTS

When writing advertisers please mention Motor World—it identifies you

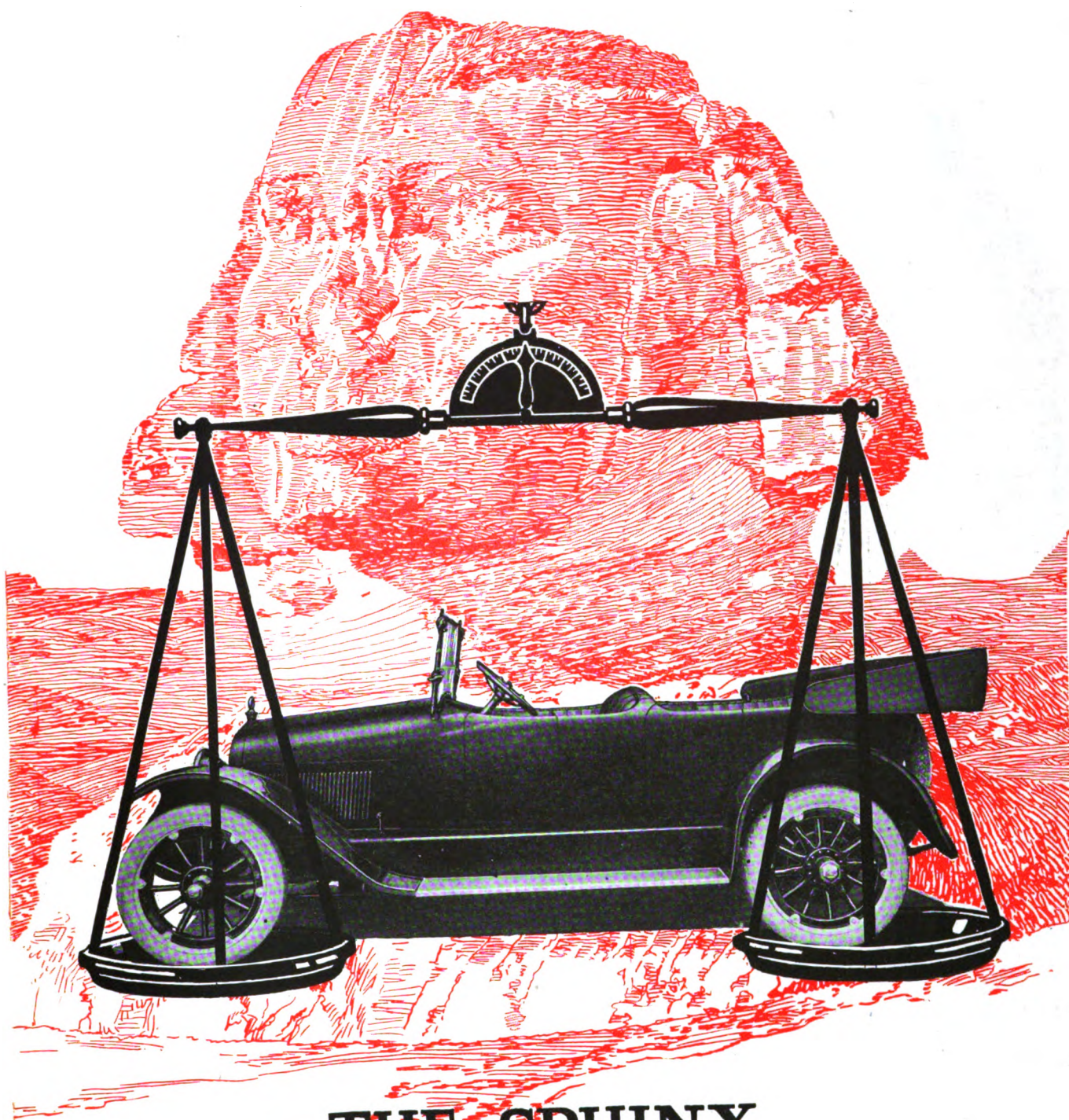


**AUTUMN**  
Tonneau protection, forward panels removed.



**WINTER**  
Weathertight—all panels in place.





**THE SPHINX  
GIVES UP ITS SECRET**

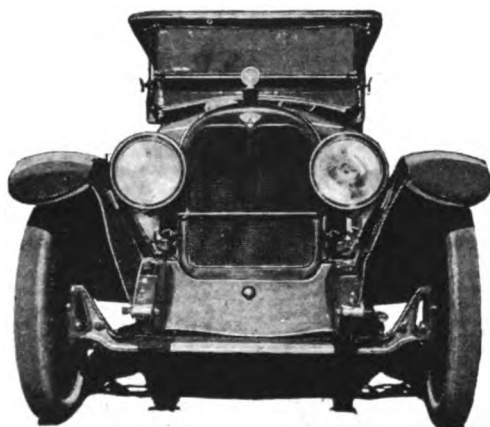
**AMERICAN**  
*The Balanced Six*





# AMERICAN

## *The Balanced Six*



5 Passenger Touring Car  
122 in. Wheelbase, 44 Horse-power

**T**HE Sphinx gives up its secret! At last has the enigma of **equalized distribution** in a car of light weight been solved. At last has a car been produced in which the weight over each of the four wheels registers the **same** almost to the fraction of a pound!

¶ To the engineers of the AMERICAN Six goes the credit for this revolutionary achievement. What it **means**—what it **does**—what it **is**—can best be appreciated by getting behind the wheel yourself and experiencing the amazing roadability of this Balanced Six.

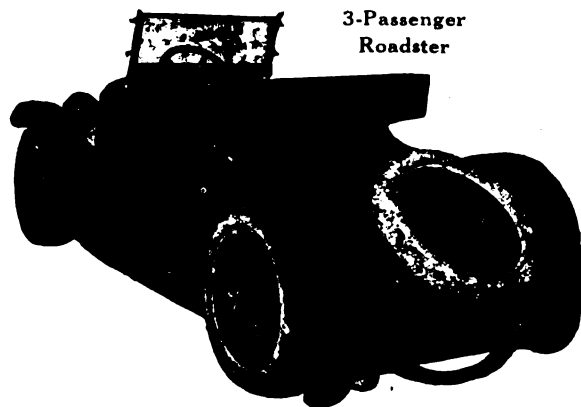
¶ "I will sell 25 of them a month," said our Philadelphia dealer when he took on the AMERICAN Balanced Six. He sold 100 in exactly 100 days! And during the Automobile Show he actually took orders for **fifty-one** AMERICAN Sixes!

¶ It has been truly said that the AMERICAN is its own best salesman. No one can ride in this car without being profoundly impressed by its extraordinary roadability. It seems fairly to "glide". At high speed it holds the road like a car of double its weight. On sharp turns taken swiftly no overtoppling or side-sway tendency is perceptible. Rest your hand on any part of the car while the motor is running idly and you feel hardly a tremor.

¶ The AMERICAN Balanced Six is a car with enormous selling possibilities for any live dealer who is seeking a car on which he can make real money. It is as distinctive in appearance and as perfectly appointed as cars selling at **double** the price of the AMERICAN. Every unit in its construction is of the very highest grade and most approved type.

¶ The margin of profit is unusually large and it represents a remarkable value at its price.

*Write or wire for our liberal distributor proposition.*



3-Passenger  
Roadster

## AMERICAN MOTORS CORPORATION

Factory and Sales Offices: Plainfield, New Jersey





Stretched, as in the tire, good tubes do not rip when cut. They cut but do not rip.

The slightest cut in an inferior tube—Rip! and the tube is ruined.

### *The Scissors Test*

Take sample piece of tube  $\frac{1}{4}$  in. by 3 in. Stretch to 9 in. or three times its original length. Cut on the edge with the scissors. The cut should not be more than  $\frac{1}{8}$  in. across the sample. If the strip tears apart the rubber is inferior.

## *You Can Test the Norwalk Right Straight Through*

**T**HE scissors test shows you that the Norwalk Tube is different. It shows you that it does not rip as other tubes.

The Norwalk Tube proves to you that the Norwalk Casing is your tire. The Norwalk Tube, floating stock, both red and gray, is the highest quality tube made. The Norwalk cord or non-skid fabric with snow white sidewalls and black tread is the highest quality tire made.

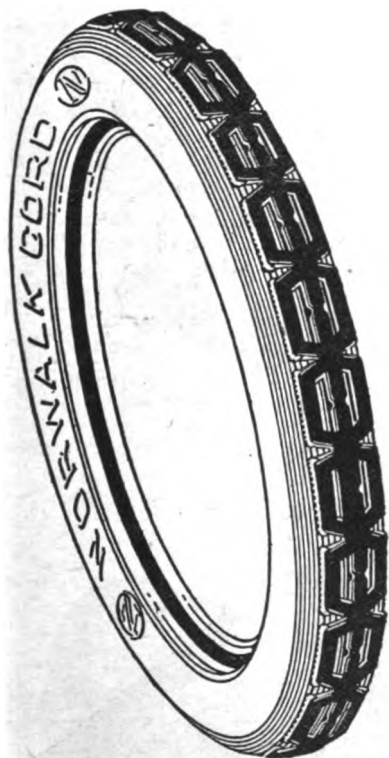
Norwalk products never ask acceptance on faith alone. Prove them before you buy. Take the first test now. Take the scissors.

### **NORWALK TIRE & RUBBER COMPANY**

*Makers of Casings, Cord and Fabric; and of Tubes, Red and Gray*  
**NORWALK, CONN.**

Export Office: 100 Broad Street, New York

**DEALERS** If the tubes you are now selling do not meet the Norwalk scissors test, better stock Norwalks at once. This advertisement is one of a series in which we are telling the public how to test tubes before they buy.



# **NORWALK**

## *TUBES and CASINGS*



# Akron-Williams

## Steam Generating Inner-Tube Vulcanizer



THIS Akron-Williams plant has started and built some of the most successful tire-repair businesses in America. You, too, can begin with inner-tube work and branch into tire repairs later.

This plant handles an immense volume of inner-tube repairs, rapidly and economically. Saves your time and labor. Is a profit-maker from the first. Contains its own steam generator, with burners for gas or gasoline.

### *Plant Consists of:*

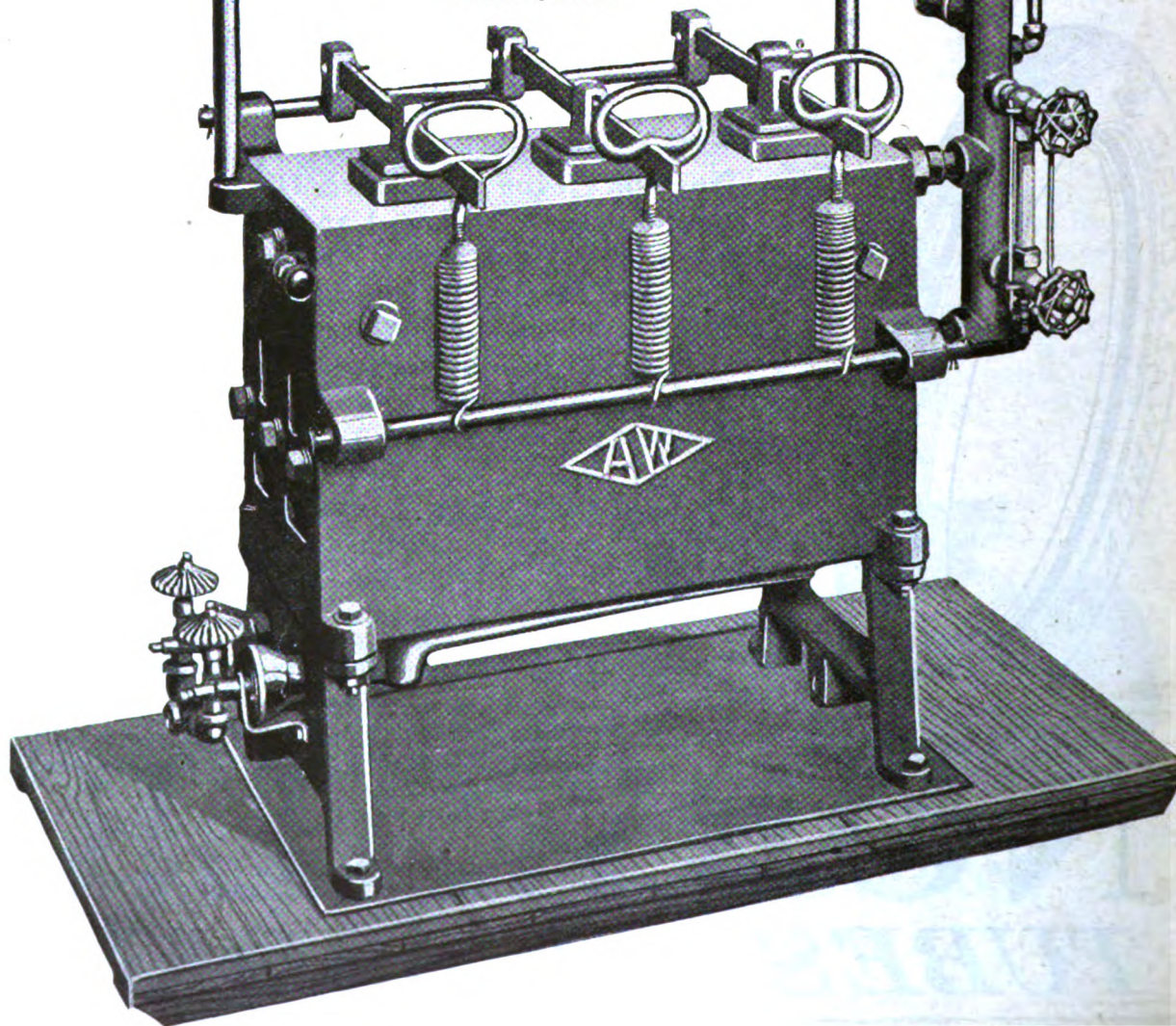
8x20-in. tube plate	One steam gauge
3 pressure bars	One water gauge
One safety valve	Burners
One filling funnel and valve	

Two sectional vulcanizers and one inside-patch vulcanizer can be added at any time—the steam generator has sufficient capacity for all four. Write our consulting engineers about this and other Akron-Williams equipment.

No charge for advice. No obligation to buy.

**The Williams Foundry & Machine Co.**

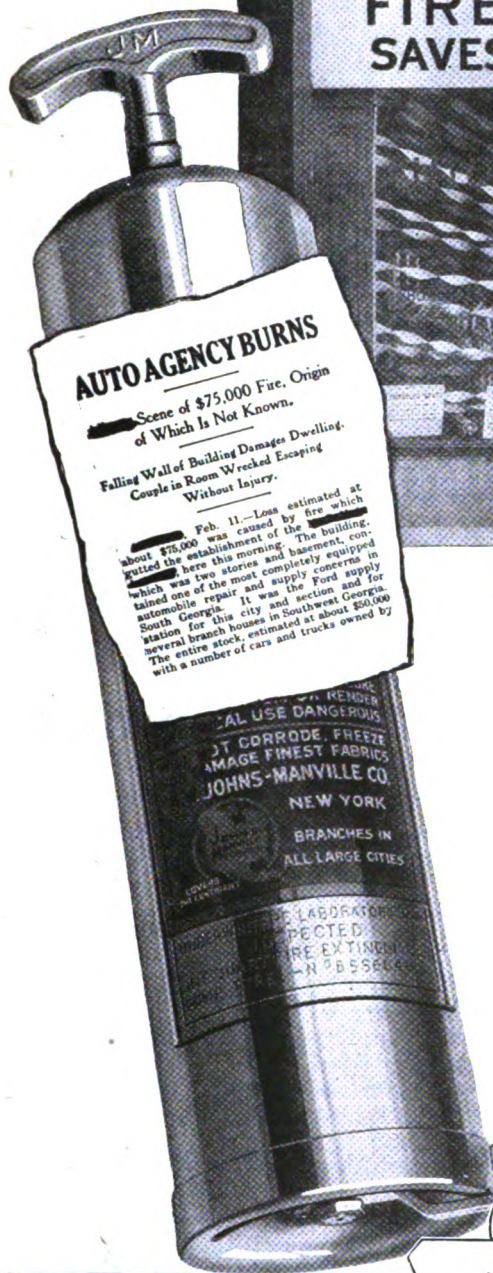
*Everything in Tire-Repair Machinery and Tools*  
**AKRON, OHIO**



When writing advertisers please mention Motor World—it identifies you



# Another way to sell—



## JOHNS MANVILLE FIRE EXTINGUISHER SAVES LIVES AND PROPERTY



Price in U. S. East of Colorado, \$10.00, \$10.50 Colorado, and West. Dominion of Canada: \$12.00 East of Calgary. \$12.50 Calgary and West.

## Dress your window every time your town has a fire

A FIRE in your town is a wonderful publicity agent in selling Johns-Manville Fire Extinguishers for you—when you take advantage of it.

With *fire-consciousness* still fresh in every man's mind—that is the time to dress your windows with persistent reminders of it. *His* home, *his* business, *his* car or truck may be the next to burn.

The fire dread is dormant in every man—the town fire awakens it to fire-consciousness and action.

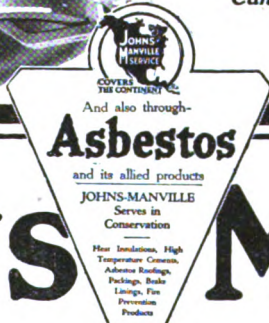
Your window displays of Johns-Manville Fire Extinguishers, showing how easily everyone can be absolutely protected with these quick smotherers of fire, is a sure way to promote sales, and fire safety in your town.

To the Trade: Sold only through legitimate trade channels. This protects you against indiscriminate competition and assures you a satisfactory profit.

Can be operated by anybody, in any position, anywhere

H. W. JOHNS-MANVILLE CO.  
New York City

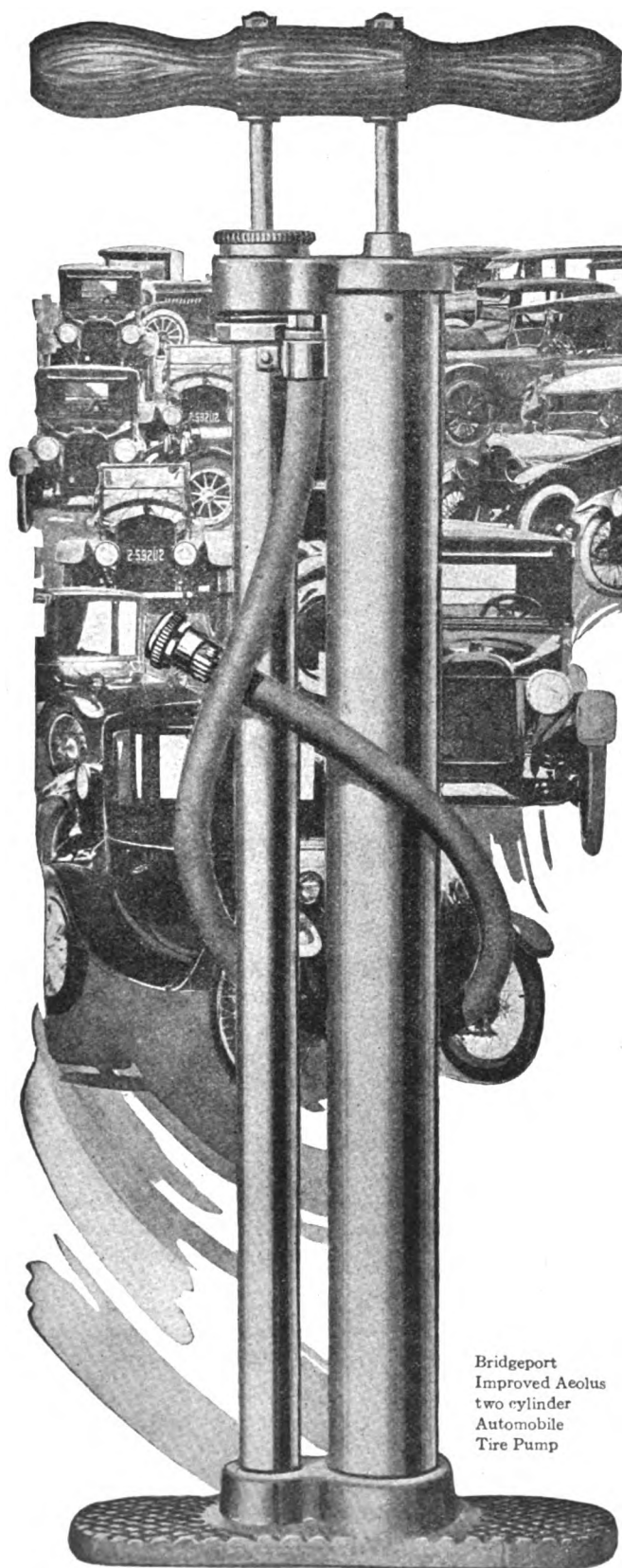
10 Factories—Branches in 63 Large Cities



# JOHNS MANVILLE AUTOMOTIVE EQUIPMENT

When writing advertisers please mention Motor World—it identifies you





Bridgeport  
Improved Aeolus  
two cylinder  
Automobile  
Tire Pump



## How Many of These Cars Would Venture Out on the Road Without a Tire Pump?

It's an easy guess; NOT ONE! Tires must have air, no matter where they are—the motorist knows it, and you won't catch him going a single mile without his pump.

Every man who drives a car is a Bridgeport Pump prospect—unless he already possesses a Bridgeport. No matter what other pump he may have, he'll want a Bridgeport—and buy one—when he sees how easily it operates, how strong and everlastingly efficient it is. For none he has ever tried before gave him such satisfaction, such freedom from strain and muscle weariness.

The cold drawn seamless brass barrel or cylinder, extra heavy base, and other details of sturdy construction are features which turn prospects into buyers. You're missing sales if you haven't stocked the Bridgeport line. And losing a chance to make many new friends for your store.

Better write today for the dealer proposition and Pump Booklet No. 18.

# Bridgeport Brass Company

Bridgeport Connecticut

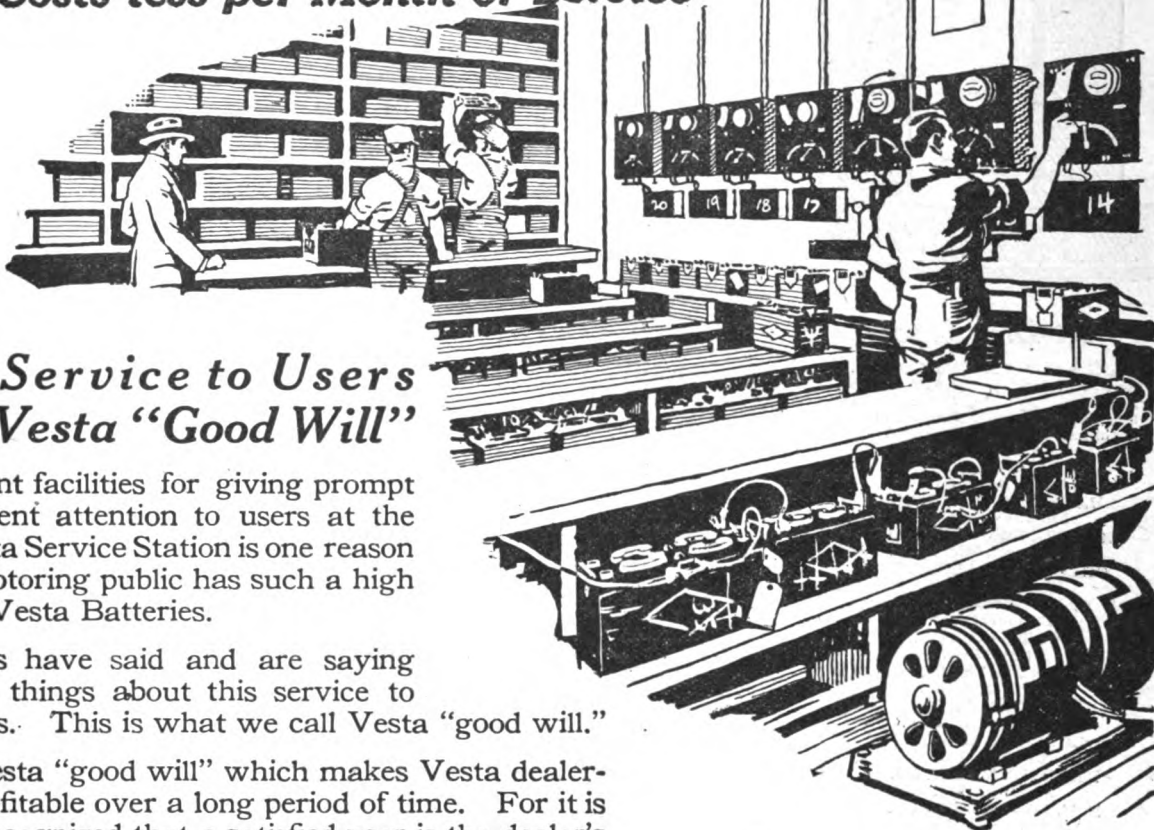
2152



# VESTA

## STORAGE BATTERY

*"Costs less per Month of Service"*



### *Vesta Service to Users Builds Vesta "Good Will"*

The excellent facilities for giving prompt and intelligent attention to users at the typical Vesta Service Station is one reason why the motoring public has such a high regard for Vesta Batteries.

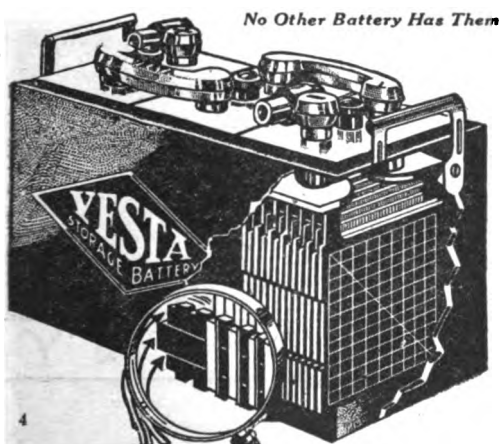
Vesta users have said and are saying many kind things about this service to their friends. This is what we call Vesta "good will."

It is this Vesta "good will" which makes Vesta dealerships so profitable over a long period of time. For it is generally recognized that a satisfied user is the dealer's best advertisement.

There is still room in the Vesta organization for a few more dealers who are prepared to measure up to the high standards of Vesta service and of Vesta batteries themselves.

### Reasons For Vesta Satisfaction

1. *Vesta Indestructible Isolators*—an ingenious device locking the plates apart and preventing short circuits.
2. *Vesta Impregnated Wooden Mats*—preventing "treeing" and its disastrous consequences.
3. *Titanium*—a rare mineral entering into the lead plates, hardening them and giving them longer life in use. It precipitates minerals and impurities in solution, thus increasing the efficiency of the battery.
4. *The Vesta Poro-Hard Plate*—a plate which is hard and extra durable, but because of its exceptional porosity gives unusual capacity.



No Other Battery Has Them

**Vesta  
Accumulator Co.**  
2100 Indiana Ave.  
Chicago, Ill.



# DORT

*Quality Goes Clear Through.*

## Dort Distributors Are Good Business Men

### **Dort Distributors**

EARLE C. ANTHONY CO., Inc.  
San Francisco      Los Angeles  
Fresno              Sacramento  
San Diego          San Jose  
Stockton           Oakland  
California  
ARCADE MOTOR CO.  
Little Rock, Ark.  
BACHMAN MOTOR CO.  
Milwaukee, Wis.  
BAKER-FISK-HUGILL CO.  
Detroit, Mich.  
BURWELL-WALKER CO.  
Charlotte, N. C.  
CARTER MOTOR CO.  
Denver, Colo.  
DORT SALES CO.  
Flint, Mich.  
DORT SALES CO.  
Kansas City, Mo.  
DORT SALES CO.  
Oklahoma City, Okla.  
LOUIS GUYLER CO.  
Chicago, Ill.  
KARDELL MOTOR CO.  
St. Louis, Mo.  
R. V. LAW MOTOR CO.  
Indianapolis, Ind.  
LACROSSE AUTO CO.  
Minneapolis, Minn.  
MOTOR CAR EXCHANGE  
Buffalo, N. Y.  
W. C. McCORMICK  
Williamsport, Pa.  
McUTCHEON BROS. VEHICLE &  
HARNESSE CO.  
Springfield, Mo.  
NORTHWEST AUTO CO.  
Portland, Ore.  
OHIO WHOLESALE AUTO CO.  
Toledo, Ohio  
POOLE & McCULLOUGH MOTOR CO.  
Atlanta, Ga.  
SECURITY MOTOR CO.  
Dallas, Texas  
TOOZER-GERSPACHER MOTOR CO.  
Omaha, Nebr.  
UNION MOTOR CAR CO.  
Memphis, Tenn.  
UTTERBACK-GLEASON CO.  
Albany, N. Y.      Bangor, Me.  
Boston, Mass.  
VALDOSTA MOTOR CO.  
Valdosta, Ga.  
WM. WARNOCK CO.  
Sioux City, Ia.

A good car attracts good distributors no less than it attracts the good-will of buyers. The one inevitably associates itself with the other.

The unusually fine record of the Dort car in service has made it a desirable car to handle.

As a result you will find that the list of Dort distributors is composed of men bearing exceptionally good records as business men.

They are in business to make money and they believe in their dealers making money.

They know that their own ultimate prosperity depends upon the prosperity of their dealers.

They have in mind constantly the best interests of their dealer organization.

They regard the dealer in the light of a partner. They realize that in helping him to better his business they better their own.

So that among dealers thruout the country a Dort dealership has come to be regarded as being especially desirable.

(57)

# DORT MOTOR CAR COMPANY

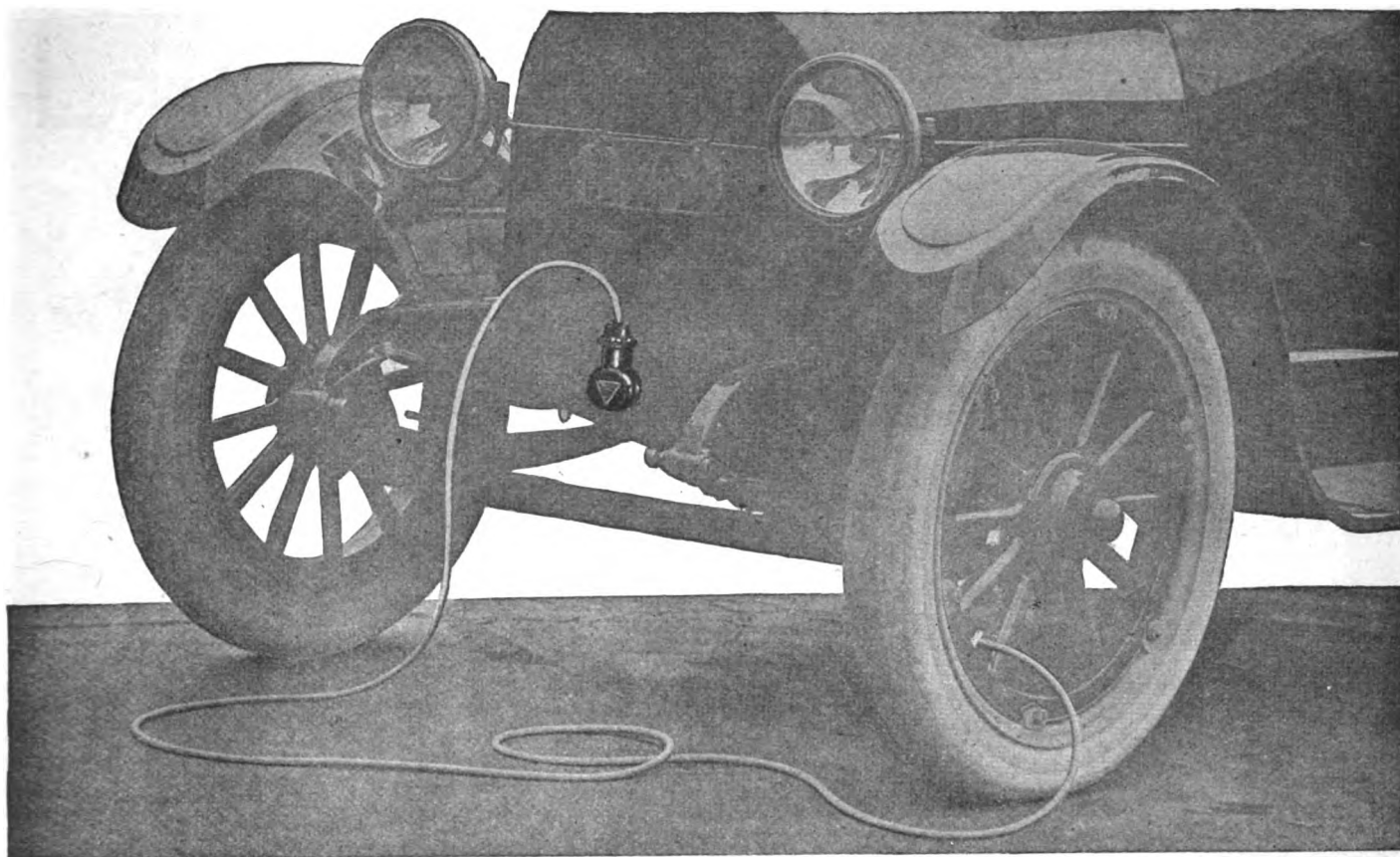
*Flint Mich.*

Canadian Factory, Gray-Dort Motors, Ltd., Chatham, Ontario

When writing advertisers please mention Motor World—it identifies you

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*The Detroit Tire-Pump will operate on a—Dodge—Briscoe—Chandler—Hudson—Overland—Reo—or Studebaker. In ordering specify model number and year in which car was made*

## DETROIT CRANK-SHAFT TIRE-PUMP

*Guaranteed For Life*

### To Accessory Dealers

Just a word—this pump is going to sell big—our advertising campaign is going to make it known to car owners in every nook and corner of the country. We've kept a substantial profit for you, and have built the pump just as good as we knew how. The pump and its price are right—Why not be first in your territory to display and sell it? Get in touch with your jobber immediately.

### To Manufacturers

We are one of the largest builders of all styles of power-driven tire-pumps in the country, including transmission-pumps for many of the best-known high-powered, touring cars and trucks. Samples for Standard equipment, blue prints and quotations gladly supplied upon request.

Here is a new Detroit product—something different in a mechanically-driven tire-pump that is attached at the right place—to the most powerful shaft on any motor car where there is "power to burn."

Further, there is no possible opportunity for oil-contamination. The pump is powerfully built and rugged to withstand long service, in fact it will outlast any car built.

Every motorist, whether he admits or not, needs a mechanical tire-pump—his tire troubles always happen at the most unpropitious times and places—all the free air stations ever built are useless to him if he is five miles or even one mile distant when tire-trouble comes.

A Detroit Crankshaft Tire-Pump in his tool-box gives him an air-station that always has "pressure up" wherever the car goes. The price is low—very low—considering the mechanical excellence and strength of the construction.

---

**THE DETROIT ACCESSORIES CORPORATION, DETROIT, Michigan**

---

#### Factory Branch Offices

**MILLER-CAVE CORPORATION,**  
122 So. Michigan Ave.,  
Chicago, Illinois.

**WRIGHT ACCESSORIES CORPORATION,**  
Atlanta, Ga.

**ASCH & COMPANY, INC.,**  
16-24 West 61st Street,  
New York City, N. Y.

**J. B. LAWRENCE & COMPANY,**  
Winnipeg, Canada.

**HUGHSON & MERTON,**  
77 O'Farrell Street,  
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When writing advertisers please mention Motor World—it identifies you



### *Why Harrison Radiators Satisfy Motorists*

Motorists prefer cars equipped with Harrison Radiators because the Harrison method of engine-cooling assures both motor efficiency and fuel economy.

The big, free air cells and water passages make possible the easy flow of air and water which is so essential to efficient cooling. Hexagon cell construction also makes for unusual strength and durability.

Look for the Harrison Radiator on the next car you buy.

**Harrison Radiator Corporation**

General Sales Offices: Detroit, Michigan  
General Offices and Factory: Lockport, N. Y.



The  
Hexagon cell  
tells you the  
Radiator is a  
"Harrison"

# **HARRISON** *Original Hexagon Cellular* **Radiators**





**What becomes  
of the Dollar**

**after it enters  
your shop?**

That's a vital problem for every automobile dealer, repair shop and garage. While it is important to get the dollars into the shop; every dollar that enters is immediately split into many parts. There's general overhead, rent, light, office expense, and labor and material. At the very best only a small part of each dollar is left for profit.

And it doesn't take much of a slip to cut that profit part of the dollar in half—or have it disappear altogether.

But you can buy insurance on every dollar that comes into your shop—insurance that will protect the profit part of the dollar.

The very best insurance to protect profit is knowledge of your business—knowledge of every part of your business and knowledge of what every part of your business costs.

Know your costs and profits will take care of themselves.

But because every dollar breaks into parts and every part goes in a separate direction, you must have complete knowledge in order to save profits.

There are more than thirty different forms in our catalog.

And every single tag or form was produced to meet an actual need.

Not in your business, or any single business, would all thirty of these forms be necessary.

But you do need enough of these forms to give you a record of every piece of every dollar that enters your shop.

You must know what you charge for each item—what it costs you—how many different items enter into each job.

You must know what each man does—how much he costs you—whether or not he is producing a profit.

You must know what stock you bought—what you sold that stock for—what stock you have on hand.

Use enough of the Comfort Standardized Tags and Forms to give you complete knowledge of your business.

Get a copy of our catalog, every form is illustrated, described and its use explained. Go over the catalog page by page, carefully note how many of these forms you can use to advantage—every additional form that you can use means additional insurance on your profits. Send for catalog today. Just sign your name on the coupon.

# COMFORT

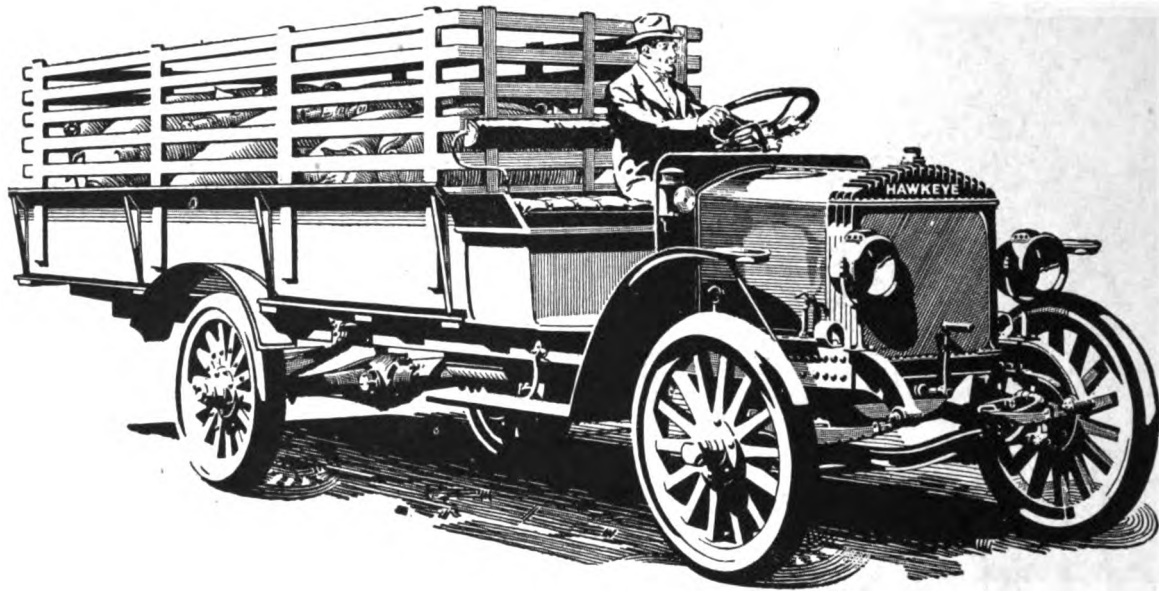
## ST. LOUIS

**COMFORT STANDARDIZED TAGS AND FORMS  
FOR DEALERS, GARAGES AND REPAIR SHOPS  
GIVE ACCURATE COST DATA ON EVERY JOB**

**Comfort Printing Specialty Co., 103 N. 8th Street, St. Louis, Mo.**

**REQUEST FOR CATALOG**  
**COMFORT PRINTING SPECIALTY CO.**  
 103 North Eighth Street, St. Louis, Mo.  
 Please send me catalog of the Comfort Standardized  
 Automobile Tags and Forms.  
 Name.....  
 Street.....  
 Town.....  
 State.....





# **HAWKEYE**

## **MOTOR TRUCKS**

The farm is a tremendously big market for motor trucks, and it will pay you to get a truck that will satisfy the farmer's needs.

Hawkeye Trucks are not only very satisfactory trucks for all ordinary hauling, but they are built to give satisfaction under the hard working conditions on the farm.

We stand back of the Hawkeye to the limit, and at the present prices of the Hawkeye you ought to do a good business with the line. We are advertising extensively and will continue to do so.

Hawkeye Trucks are built with a larger "factor of safety" than most other trucks selling at a similar price. Each unit, each part, is gauged with every other part, forming an engineering product well-balanced in point of endurance.

Over 170 parts are made in our own factory, but Hawkeye Trucks include such tested units as Buda Motor, Clark Internal Axle, Fuller Transmission, Gemmer Steering Gear, Eisemann High Tension Magneto and Columbia Axle.

## **Hawkeye Truck Company**

**632 Sixth Street**

**Sioux City, Iowa**



*Get These Big Four Reasons Why  
Your Shop Should Be Equipped With An*

# **ALLRED Burning-In and Testing Machine**

*"the big business builder of Ford and Fordson work"*

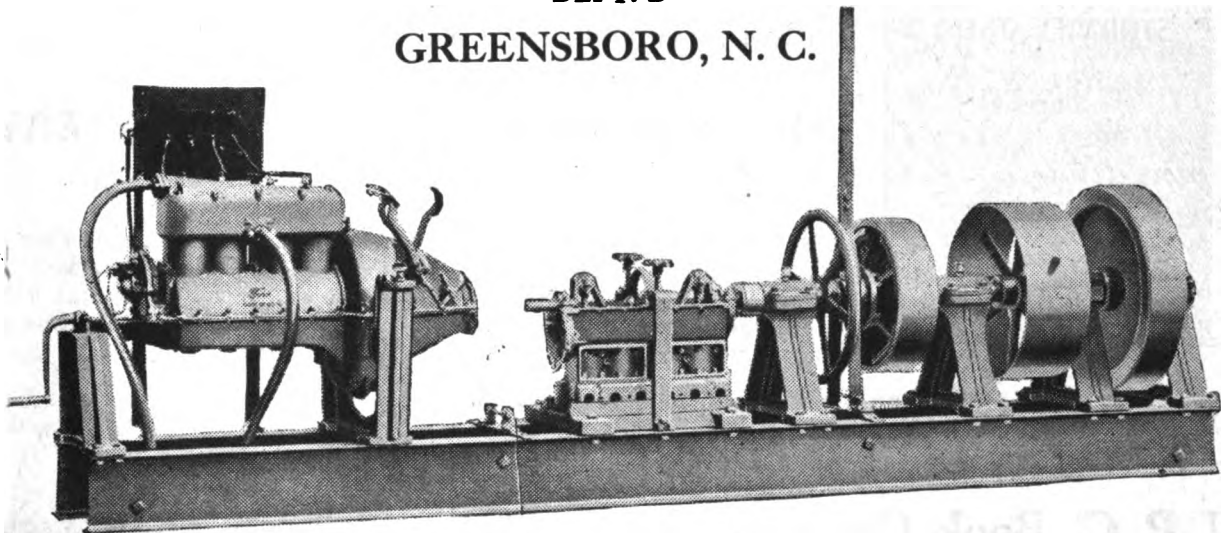
- (1) The heavy ALLRED fly-wheel helps to store power for use when most needed. It saves the belts, secures full service out of a 10 H.P. motor and is absolutely necessary to get the proper work and maximum service from the burning-in machine.
- (2) The ALLRED burns bearings the way the crankshaft runs in the assembled motor, with the cylinders inverted. This insures work that will stand up. The mechanic sees what he is doing and can get at his work.
- (3) The testing stand motor is easily and instantly connected. Both burning-in and testing stands may be used at the same time, which is very often necessary.
- (4) The ALLRED is mechanically built right. It is no less and no more than a most efficient burning-in and testing machine and will last a lifetime.

*Write for  
our interesting  
proposition and  
full descriptive  
details.*

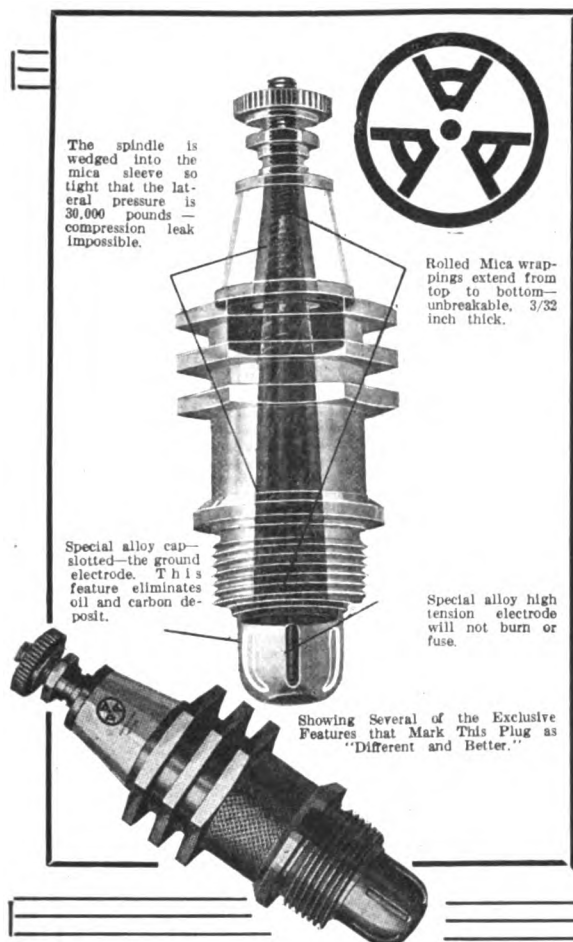
## **The C. R. SUTTON CO.**

DEPT. B

GREENSBORO, N. C.







**We Make Stronger Claims For This Hill 3-A Spark Plug Than Any Other Plug Manufacturer Dare Make—Dealers Can Sell on the Proved Assertions.**

## HILL 3-A SPARK PLUGS

Terrific endurance tests have proved our basic design patents correct. This plug is an original one-piece mica type. It has no gaskets or bushings to complicate and weaken. The center electrode is tightly wedged in mica. It cannot short-circuit. Cap electrode is slotted and carbon is instantly consumed through in-rushes of gases at each violent explosion. There is no place for oil or carbon in its anatomy. It will not leak compression and no "rough house" motor can break it. It will not rust.

We have tried every form of punishment to find weak points. We took two years to do this. Our idea of a spark plug spelled "Perfection" and here it is, as sturdy in its function as is the steel frame of the truck.

You dealers hunt up some old reprobate of an engine—one with the reputation of a "spark plug killer." Try the Hill 3-A Spark Plugs on its temper—as long as you please. Then you will have the answer that we have been getting for years.

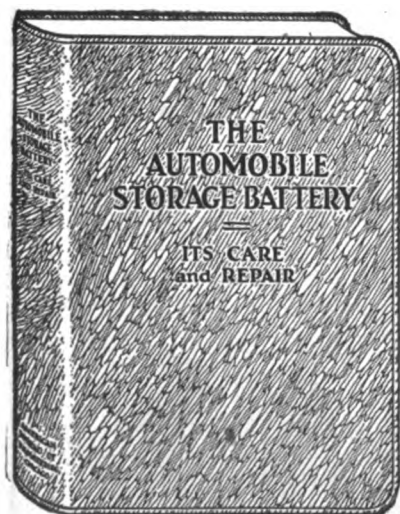
What will your car, truck and tractor customers think of this spark plug service?

Ask yourself—and then stock up. Big profits in your sales.

*Hill 3-A Spark Plugs Make Good—Or We Do  
Price \$1.25 each*

**Hill Insulating & Manufacturing Corp.**  
515 W. 42nd Street  
New York City

## This Book Opens New Opportunity for You



One branch of the auto repair and overhauling-business is desperately in need of trained men—that is care and repair of storage batteries. With the development of the electric lighting and starting systems and their application to almost every car this is now a vital factor in all repair work.

If you are an auto repair man you can increase your worth with the information in this book. If you own a shop you can make it more efficient with the instructions in this book—

### THE AUTOMOBILE STORAGE BATTERY

#### *Its Care and Repair*

284 pages fully illustrated, limp leather binding. Tells all the theory of the storage battery—how it "stores" electricity—how to take it apart—how to tell what the trouble is—how to repair it—in fact it is a complete work on this difficult subject, handled in non-technical language.

Endorsed by all the leading authorities as well as the battery manufacturers.

Mail us the price, \$5, and we will send you the book, postpaid. Examine this book for 5 days, if you do not think it the best investment you ever made, return it for your money.

**U. P. C. Book Company, Inc., 243-249 W. 39th St., New York**





# A Real Selling Feature

Not a mere talking point, but a genuine feature of merit—a self-fluxing solder—that automatically takes care of the fluxing bother, the use of soldering salts, acid or paste.

## KESTER ACID-CORE WIRE SOLDER

Self-fluxing and self-selling. Any of your customers who have soldering to be done on radiators, spark plugs, gasoline pipe and tank joints, battery terminals or any general automobile solder repairing work, will immediately want it when they know it eliminates the fluxing bother. This solder has a core of little pockets full of flux. As the solder is melted off just enough flux flows out to insure a perfect bond between solder and metals. For auto repairing and all kinds of general solder work, it is just what the customer wants.

### EXTENSIVELY ADVERTISED

We are advertising KESTER SELF-FLUXING ACID-CORE WIRE SOLDER in the leading trade papers, by direct mail and numerous other mediums. We are continually creating a demand among the automobile owners and our progressive dealers throughout the country are reaping the harvest. Be prepared to cash in on our advertising. There is a good margin of profit in KESTER WIRE SOLDER.

### ASK YOUR JOBBER FOR IT

If he can't supply you write us. KESTER ACID-CORE WIRE SOLDER is sold in one pound coils in cartons, and one, five and ten pound spools. Examine a piece of it—mail in the coupon for a free sample—you'll not be obligated.

Cut out the coupon, fill it in and mail it to us now.

CHICAGO SOLDER CO.

218 No. Union Ave., Chicago.

### FREE SAMPLE COUPON

Chicago Solder Co.,  
218 No. Union Ave., Chicago.

Gentlemen: Please send me a free sample of your KESTER ACID-CORE WIRE SOLDER.

Name .....

Address .....

City ..... State .....



When writing advertisers please mention Motor World—it identifies you



# DEALERS

The Rim that should be  
In Your Stores—  
The Firestone Rim

## The Reason From Your Standpoint

**FIRESTONE RIMS** have proven so conclusively their superiority that thousands of car owners want them.

Firestone Rims are already standard equipment on 130 out of 180 passenger cars.

High-grade cars are equipped with Firestone Rims. The motoring public whose cars do not have Firestone Rims will buy them if you carry them.

The space and investment required are small.

Rim change is easy.

The business grows rapidly.

Investigate. Write for Rim facts, prices and special introductory offer.

## The Reason From Your Customer's Standpoint

**FIRESTONE RIMS** are easier to change, because of absence of complicated parts and the elimination of rusting and sticking. Tire change can be made in five minutes.

Firestone Rims get greater mileage from tires. This is due to the accurate alignment, continuous bearing on felloe band and continuous wedging support.

Firestone Rims do not squeak.

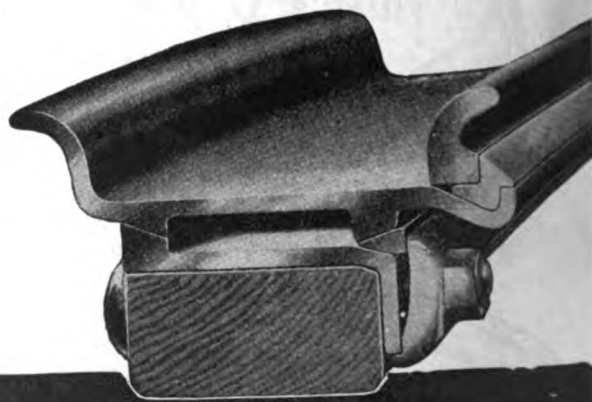
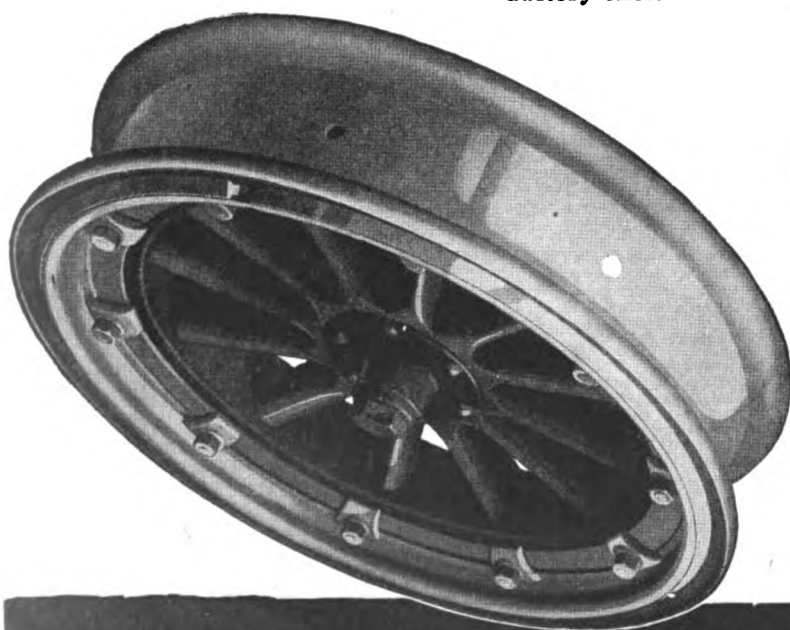
Type C, Firestone Continuous Rim.

Type E, Firestone Split Rim.

**The Firestone Steel  
Products Co.**

FIRESTONE PARK

AKRON, OHIO







PATENTED FEB. 17, 1914. NOV. 26, 1918

## Speed — Accuracy — Profit — Service

That's what **Sioux Tools** mean in every shop equipped with them

### Speed

— perfect fitting valves in one-twentieth the time required by the old grinding methods.

### Accuracy

— angles absolutely accurate and perfectly centered, because Sioux Tools are superior in working principle.

### Profit

— cuts down labor costs and consequently gives more profit on every job. A few jobs pay for the set.

### Service

— we keep Sioux Tools sharp and in good working order. No charge. You only pay transportation charges. Workmanship and material guaranteed.

Complete Set as Illustrated, \$22.50

## Sold By All Live Jobbers



CARRIES THE LOAD

TAKES THE THRUST

WHETHER or not  
there are BOWER  
bearings at other points—  
put them in your wheel  
assembly.



*Make childs play  
ANYWHERE  
of load and thrust*

**BOWER**  
ROLLER BEARING CO.  
Detroit Michigan

#### Exclusive Bower Features

Separate bearing surfaces for load and thrust. Parallel raceways. Self-aligning. Never need adjusting. Does not develop end thrust under loads. Will not bind or end-slip.







## A "K & J" Special Hauling Requirement

Look at this Standardized "K & J" Model "G" End Dumping Body for Hauling Garbage.

The body is formed from large plates with center seam welded and the entire body unit adequately reinforced and stiffened. All inside rivets are countersunk. All seams are water tight.

The bottom of the body slopes up at the back end with a tool box under the floor. The lids are well hinged and fitted with pulleys for opening.

This body is supplied with adjustable underframe complete, including wood sill and all necessary parts and fasteners for mounting. It is suitable for use with any practical vertical hoist.

This is only one of a number of "K & J" bodies.

Write for catalog No. 501.

**The Kilbourne & Jacobs Mfg. Co.**

Columbus, Ohio

New York

London

### DOMINANT ADVANTAGES THAT DISTINGUISH "K & J" STANDARDIZED MOTOR TRUCK BODIES

- 1 **ADJUSTABLE SILLS**—Without drilling holes or driving rivets, sills may be quickly adjusted to fit any width between chassis frame members.
- 2 **EASILY MOUNTED**—Underframe of body may be easily attached to any size of chassis frame member by "K & J" Adjustable "Vise Grip" Bolt Clamps. Avoids weakening of frame with rivet holes.
- 3 **MANUAL TAILGATE**—"Partial" dumping tailgate control to "spread" materials with truck in motion ( $2\frac{1}{2}$ "-5" total release). Operated from driver's seat.
- 4 **SAVE HANDLING COST**—Identical sizes of bodies "nest" one within the other for shipping, hauling and storage thus effecting economy in handling.
- 5 **AMPLE CLEARANCE**—Tailgate high hinged to allow ample dumping clearance, also hinged from bottom. Forward end of body heavily reinforced and slightly "crowned" to avoid spill.
- 6 **ABSORBS SHOCKS**—Deep oak "cushion" sills absorb load shocks and strengthen chassis frame, yet lower center of load, avoiding side sway.
- 7 **RIGID HINGES**—Increased rigidity of body when elevating for dumping, due to superior hinge design supporting body from end to end of transmember, not merely from sill to sill.
- 8 **EXTRA STRENGTH**—Built from large full gauge plates riveted and welded together. Sides deeply "flanged" with oversize stiffeners. Reinforced underframe and tailgate.
- 9 **STANDARDIZED**—Fits any hoist or chassis frame. Shipped complete, oak and steel sills, hinges and clamps ready to mount.

**THE**  
**Kilbourne & Jacobs Mfg. Co.**  
**DUMP BODIES FOR MOTOR TRUCKS**





# Rie Nie

Trade Mark Reg.

## PATCH

**"There Is None Better—We Use Rie Nie In Our Shop"**

**D**EALERS everywhere who know Rie Nie Patch material, either all rubber or fabric, are thoroughly convinced that it is the best both for use in their shops and as a sales builder over the counter.

Requires no heat or tools—holds like a vulcanized patch. Works equally well on a blowout or a pinhole. Comes in dollar and half-dollar sizes.

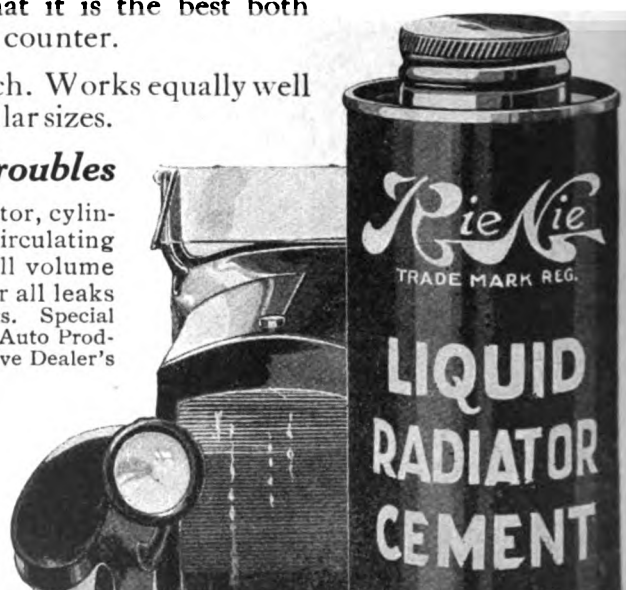
### *Rie Nie Liquid Cement Ends Radiator Troubles*

Rie Nie Liquid Radiator Cement finds the leaks in the radiator, cylinder or connections and fixes them—large and small—while circulating with the water. Positively will not clog up or impede full volume flow. Prevents rust and scale. Will also permanently repair all leaks in steam and hot-water heating plants. Auto size sells for 75 cents. Special size for Tractors, Trucks, Boilers and Heating Plants, \$3.00. Rie Nie Auto Products are all quality sale repeaters. Write today for Catalog and attractive Dealer's Proposition.

**DURKEE-ATWOOD CO.**  
MINNEAPOLIS, U.S.A.

Manufacturers of Rie Nie Products

Canadian: Durkee-Atwood Co., Ltd., Toronto  
Factories at Minneapolis, Cleveland, Toronto





SOME UNALLOTTED TERRITORY FOR A1 DEALERS

# *The Amesbilt*

## **Speedster Body for Fords**

### **A Serviceable Body for Sunshine or Storm**

It's a highly attractive speedster body at a low price—but—construction, lines and finish are equal to the best as a single inspection clearly indicates.

Look and be attracted.

Buy and be satisfied—Amesbilt is your guarantee.



### **An Instantly Attractive Job**

One that transforms a Ford into a prideful possession at a minimum of cost.

Then there's the "Family Five" and the "Wasp", thus giving a beauty body for every taste and purse.

*Attractive literature on request*

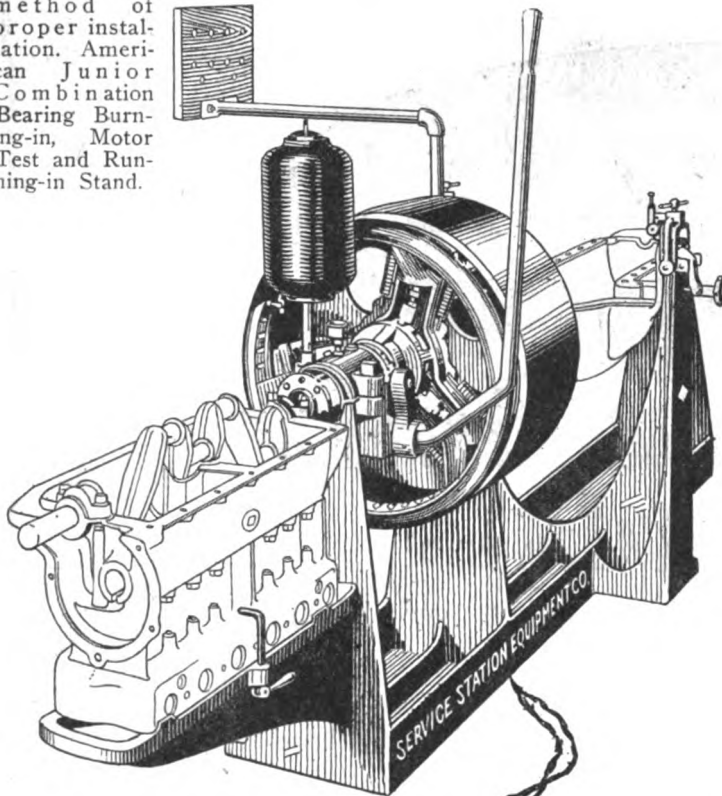
*Write today*

**THE F. A. AMES COMPANY, Incorporated**  
**OWENSBORO**

**KENTUCKY**



**\$197.50** F.O.B. Chicago, including gasoline tank, coil box holder, water connections and a set of blue prints showing method of proper installation. American Junior Combination Bearing Burning-in, Motor Test and Running-in Stand.



**\$197.50**

F.O.B. Chicago



This trademark is our guarantee and your protection.

## Bearing Burning-in Machines —Better Ford Motor Bearings at Lower Costs—More Profits to Service Station Owners.

**A**CTUAL shop experimenting has shown that the Bearing Burning-in Machines sold by The Fairbanks Company save 5 to 7 hours on refitting Ford motor bearings.

This means a big saving in money and more profits.

When the job is finished by the burning-in process you have 95% bearing surface.

It takes 6 to 9 hours to hand scrape a set of Ford motor bearings, and the best average is only 40% perfect bearing surface.

Already 3000 Ford Service Stations in America and many others in South America, South Africa and England are equipped with these labor-saving machines. They have all realized greater profits and their customers have been better satisfied.

Do not fail to give these machines your closest consideration. The initial cost is small. The equipment soon pays for itself.

Write today to the nearest Fairbanks Branch House and ask for catalogue.

*The*  
**FAIRBANKS**  
Sole Distributors for the  
SERVICE STATION EQUIPMENT CO., CHICAGO, ILL.  
*Company*



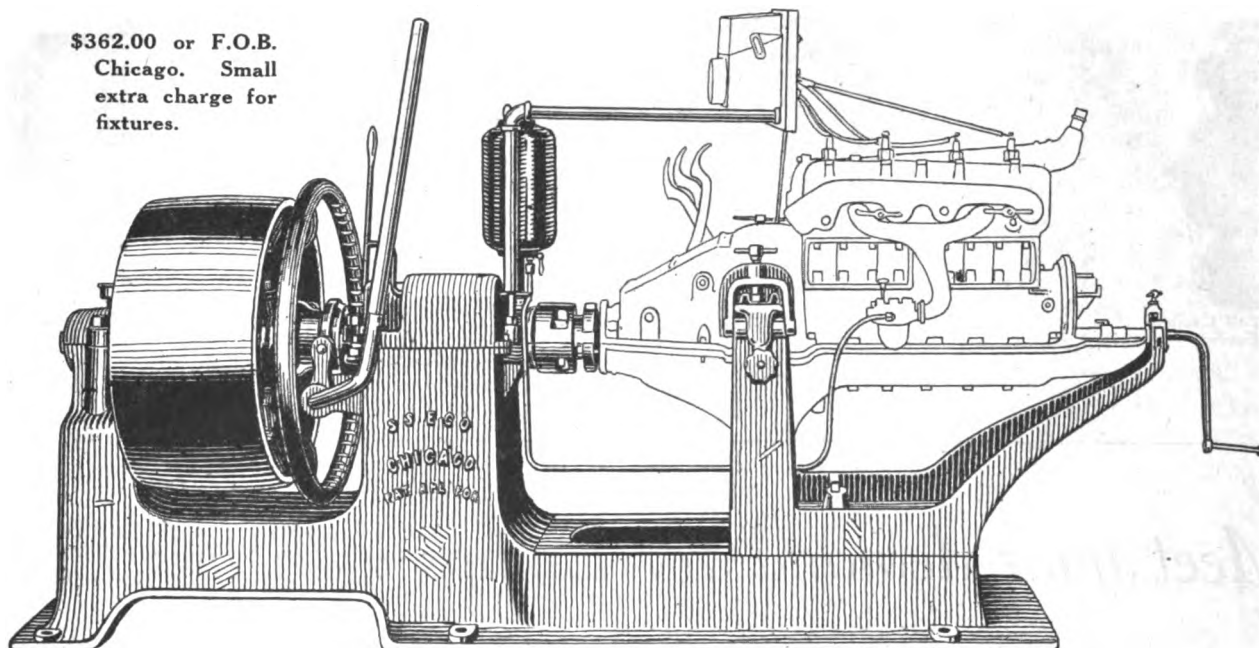
MILL, MINE AND RAILWAY SUPPLIES, SCALES, VALVES, POWER TRANSMISSION, TRUCKS AND WHEELBARROWS

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\$362.00 or F.O.B.  
Chicago. Small  
extra charge for  
fixtures.



American Universal Bearing Burning-in Motor Test and Running-in Stand. The illustration shows the machine with fixture for running-in and testing assembled Ford motors. This machine is used also for burning-in the bearings on Ford motors, in upright position or up-side-down **\$362.00** F.O.B. Chicago, without fixtures. Small extra charge for necessary fixtures for burning-in, running-in and block testing Ford and Fordson motors.

## These machines are sold under "THE FAIRBANKS COMPANY O. K."

All Service Station Equipment machines are manufactured by the Service Station Equipment Co. of Chicago and sold under "The Fairbanks Company O. K."

This means that only the finest material and highest grade workmanship are used on these machines.

Every one is tested and found to be right. "The Fairbanks Company O. K." is your protection. Use it.

THE FAIRBANKS COMPANY  
*Administrative Offices*—NEW YORK

### BRANCH HOUSES:

Albany	Chicago	New York	Rochester	Havana, Cuba
Baltimore	Detroit	Paterson	Scranton	London, England
Boston	Hartford	Philadelphia	St. Louis	Birmingham, England
Birmingham	Newark	Pittsburgh	Syracuse	Glasgow, Scotland
Bridgeport	New Orleans	Providence	Tulsa	Paris, France
Buffalo			Washington	

Here is a list of these profit making machines and tools:

- Bearing Burning-in Machines
- Motor Test Stands
- Rear Axle Test Stands
- Sleeve Pullers
- Turning Bars
- Bench Motor Clamps
- Piston Clamps
- Boring Machines
- Re-Babbiting Jigs
- Air Compressors
- Arbor Presses
- Connecting Rod
- Straightening Jigs
- L Wrenches
- Speed Wrenches
- Reamers
- Straightening Presses
- Radiator Test Tanks

Tractor Tools and special machinery  
for Ford and Fordson

The  
**FAIRBANKS**  
Sole Distributors for the  
SERVICE STATION EQUIPMENT CO., CHICAGO, ILL.  
Company



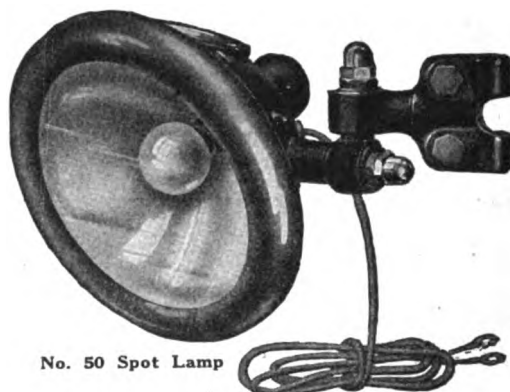
MACHINE TOOLS, ENGINES AND PUMPS, AUTOMOBILE AND SERVICE STATION EQUIPMENT

When writing advertisers please mention Motor World—it identifies you





No. 441 Tail Lamp  
for Fords



No. 50 Spot Lamp



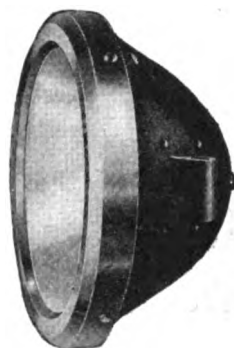
No. 361 Electric  
Tail Lamp

## *Meet your demand for Lamps with this Line*

With a complete line of Victor products you will be able to meet all calls for automobile, motorcycle, tractor and truck lamps, as well as tool and battery boxes.

And you will be handling a line of lamps that has a reputation for honest service and dependable quality behind them. They are reasonably priced, too, considering the quality offered.

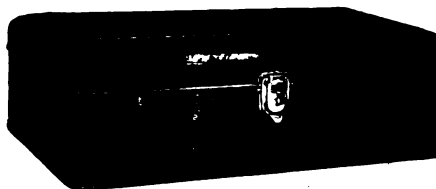
Each article is packed in an individual carton, sealed



No. 600 Headlight for  
medium sized cars

and labeled. It comes to you in the same perfect condition as when it left the factory. All parts are also packed individually and labeled.

Order a representative line from your jobber, today. Our immense reserves insure him full stocks at all times.



No. 622 Tool Box with Yale Lock

Our illustrated catalog describes the complete line of all Victor quality products. A postal brings your copy.

THE CORCORAN-VICTOR COMPANY,

712 Reading Rd., Cincinnati, O.

**Victor**  
TRADE MARK

*Lamps for*

MOTOR CARS

TRUCKS

MOTORCYCLES

TRACTORS

AIRPLANES

When writing advertisers please mention Motor World—it identifies you

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# A TYPICAL EMPIRE SERVICE

## TO DEALERS

Every month there breezes in to the desk of the dealers handling Empire tire products the cheery little messenger shown at the left.

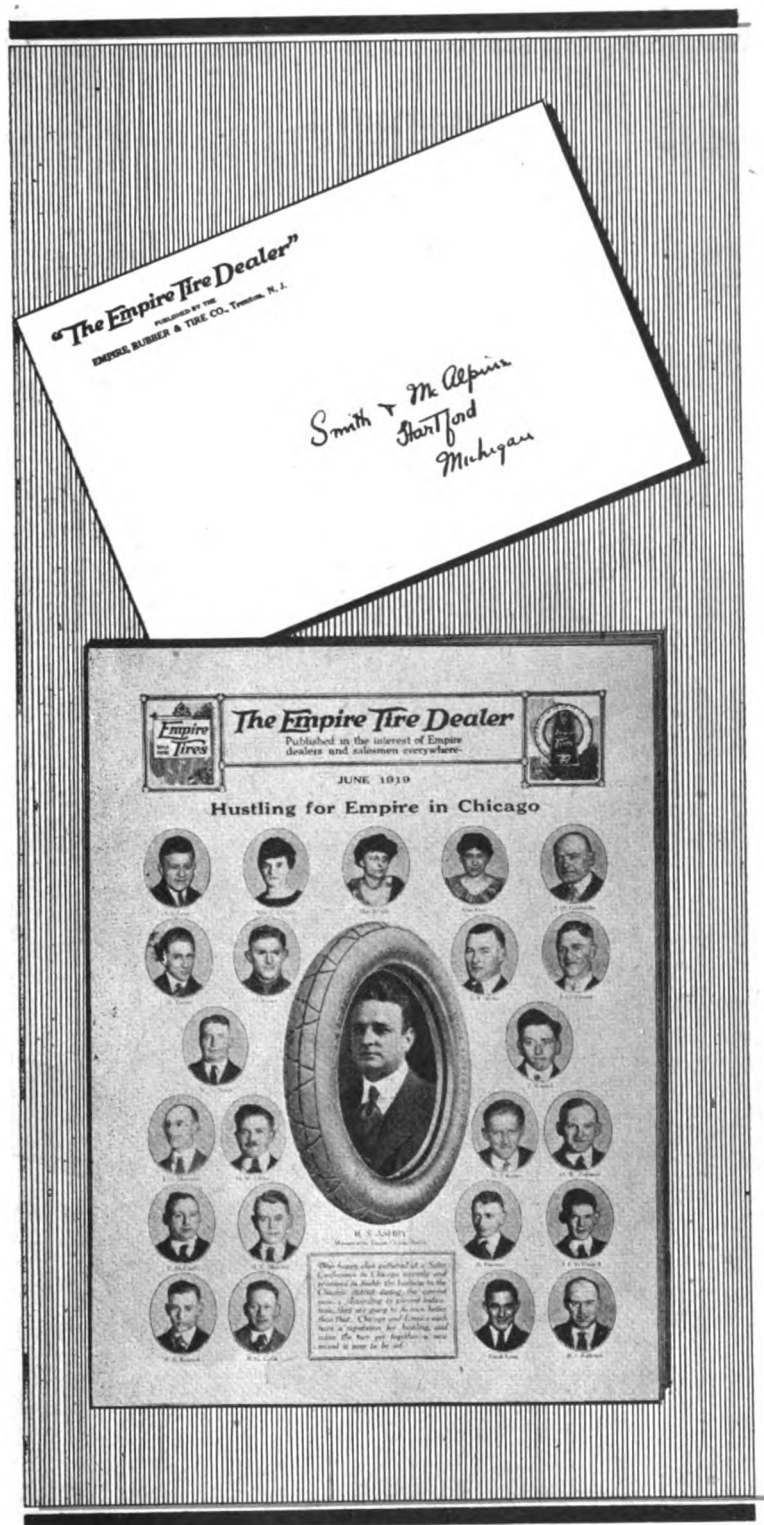
A full-fledged magazine, it has but one object in life—to serve that great clan after whom it is named.

Its pages contain many valuable sales hints from maker and fellow-dealer, general news items of interest, bright personal notes and pictures, authoritative articles on phases of tire and tube manufacture and—

Last, but not least, the full page Empire advertisements are reproduced before they appear in the great national periodicals. By means of this feature the dealer ties up with his advertising in advance, just as Empire advertising is tied up with him by appearing always over the famous "The Empire Tire Dealer" signature.

Wherever you are, and whether you handle Empire products or not, send a post-card today for a copy of the June issue of this "typical Empire service to dealers." It will interest you. Address:

**The Empire Rubber & Tire Co.  
Trenton, N. J.**



# Empire Tires and Tubes

When writing advertisers please mention Motor World—it identifies you



# HALLADAY

## Direct Suspension Shock Absorber

### The Shock Absorber that Eliminates Recoil by Removing the Cause

The driver of a Halladay equipped Ford is never troubled with being bounced up by the recoil after hitting an obstruction or dropping into a hole, for rebound never happens.

The great range and lightning action of the Halladay "bee hive" springs take up the rebound before it can reach the leaf spring.

Make your car ride smoothly and last longer. Save money on tires and gas. Travel the roughest roads in comfort. Equip with Halladay Direct Suspension Shock Absorbers.

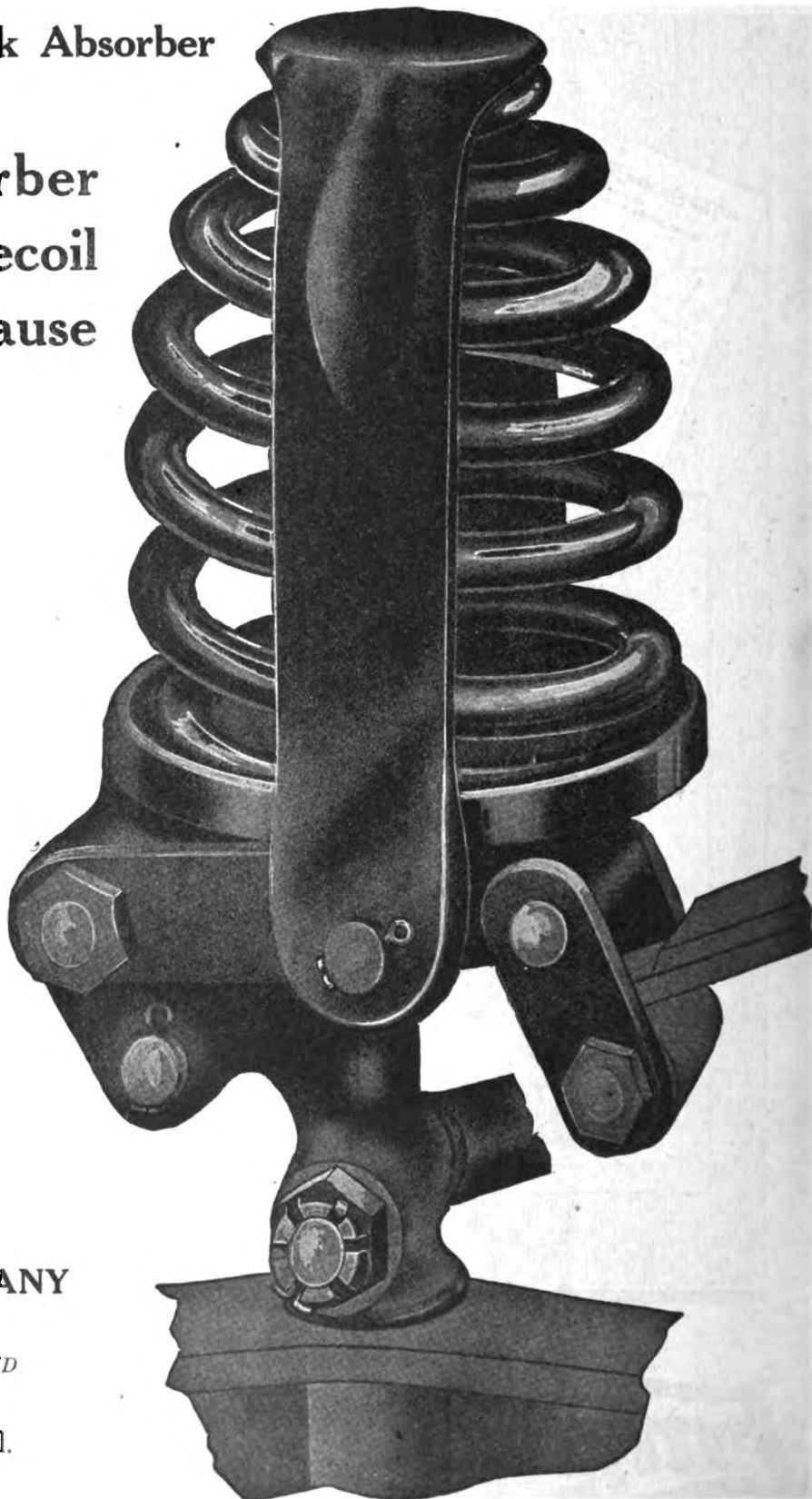
Made and guaranteed by men who know.

*Write for descriptive circulars*

**L. P. HALLADAY COMPANY**

*Manufacturers of*  
**BUMPERS, SHOCK ABSORBERS AND  
AUTOMOBILE ACCESSORIES**

540-550 Monroe St., Streator, Ill.



When writing advertisers please mention Motor World—it identifies you

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# ROLLS-ROYCE



THE FUTURE OF FLYING  
DEPENDS ON RELIABILITY

A telegram from Captain Alcock  
and Lieutenant Brown reads:

"Congratulation on performance  
of the two Eagle Rolls-Royce  
engines which propelled the  
Vickers Vimy safely across the  
Atlantic"

ROLLS-ROYCE  
15 BROAD STREET  
NEW YORK

ROLLS-ROYCE AERO ENGINES LIKE ROLLS-ROYCE CARS  
THE BEST IN THE WORLD

# ROLLS-ROYCE





*New*  
**Mitchell**  
*Sixes*

**New Victory Model**  
*Over 100 Improvements*

# Today's Top Car

## In This Class—Nobody Can Doubt It

Bear in mind that the pre-war Mitchell was a 14-year development.

It had won us conspicuous success. The factory had become one of the great plants of Motordom. We seldom could meet the demand.

Now, in this new Mitchell—a two-year revision—we have added 100 improvements. We have added 50 per cent to the average strength, and 75 per cent to endurance.

We are using better materials, new heat treatments, finer workmanship, radical tests and inspections. We have spent \$250,000 for new machinery and equipment.

When we add that much to the former Mitchell, you may be sure that we have today the pinnacle Six in this class.

### Nothing Overlooked

The Mitchell organization today includes many exceptional men. They are men of rare standards, rare experience, rare ability.

We brought in many new experts and specialists to revise the Mitchell Six. They were given ample leeway and two years of time. So every factor was considered.

Not in the chassis only. The finish was made more enduring. A new-grade top was added, new lines were adopted, new upholstery, a new-type steering gear, new dashboard arrangement.

Operating cost was reduced about 25 per cent. This by a thermostat to control the temperature

of liquids, air and gas. By a double-heated carburetor intake. And by eliminating waste in the motor.

Two new-type balancing machines were installed to give us a twice-balanced crank shaft.

Many new tests were adopted. Government inspection methods, as applied to our war trucks, were applied to this new Mitchell Six.

### New Factory Savings

In the war years, also, we perfected our factory efficiency. We have introduced many new and scientific cost-reducing methods. So this new Mitchell, with all these costly additions, undersells any comparable Six.

This new Mitchell Six is the central attraction in this type of car today. But its career is just beginning. Every Mitchell advertisement is awakening new interest. Every new Mitchell which goes out is giving us new prestige.

We want to hear from dealers who believe that such standards, such policies, such economies will win. Who believe that the best car in this class is bound to hold first place.

### 5-Passenger Touring Car

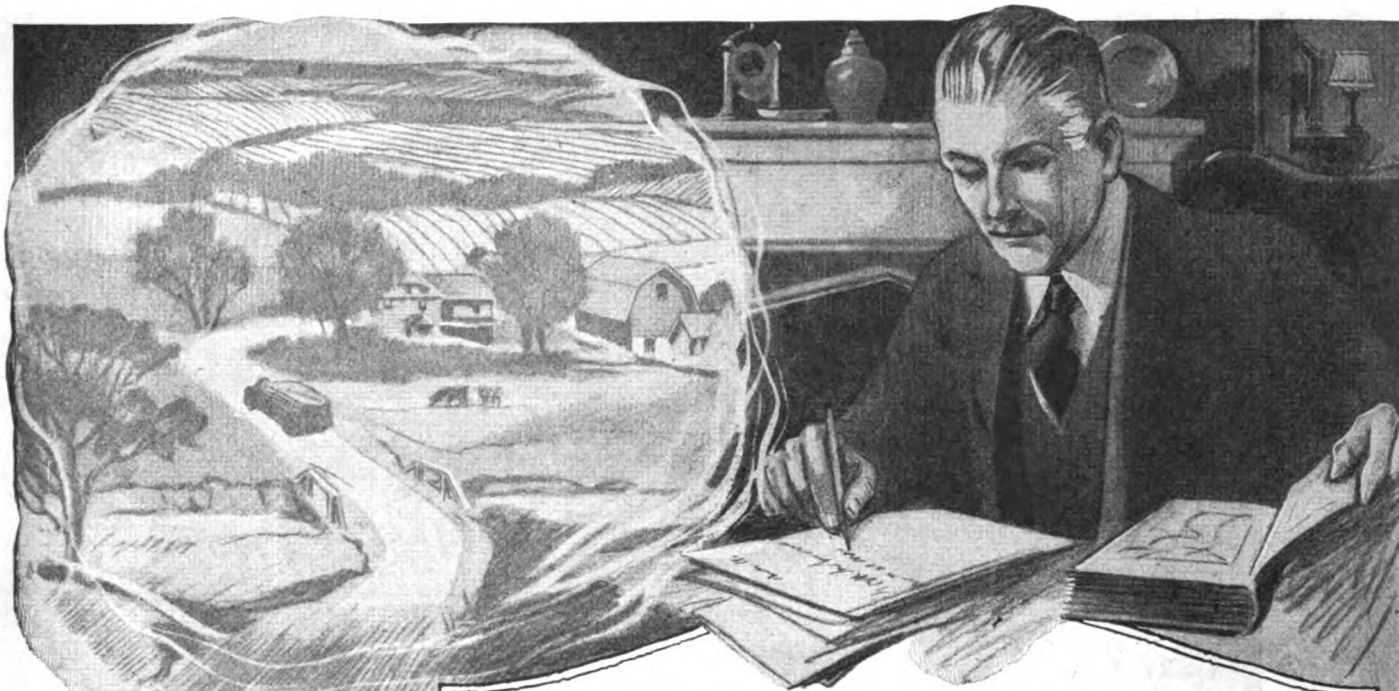
**\$1475 f. o. b. Racine**

120-Inch Wheelbase—40 Horsepower Motor.  
3-Passenger Roadster, same price.  
New-Type Touring Sedan, \$2175.

7-Passenger Touring Car  
127-Inch Wheelbase—48 Horsepower Motor  
\$1675 f. o. b. Racine

MITCHELL MOTORS COMPANY, Inc., Racine, Wisconsin





## Cut Your Gas Costs

Better have that machine of yours equipped with a New Stromberg Carburetor if you are figuring on taking a vacation trip in it this summer. You'll get a lot more enjoyment out of your journey and you'll save a lot of money on fuel bills.

On *any* car — the New Stromberg gives greater power—greater speed—better acceleration. On *any* car it reduces mileage costs.

Insures perfect gas mixture at all times. Eliminates all temper-ruining and time-wasting engine disturbances that come from faulty carburetion. Makes a better car of *any* car. Puts a finer edge of pleasure in motor trips—and cuts travel costs.

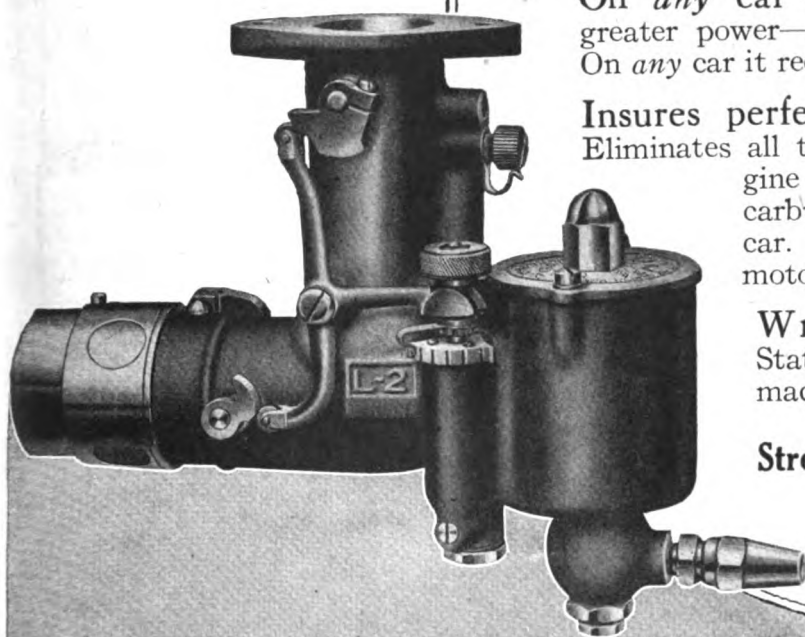
Write for descriptive matter. State name, year and model of your machine.

**Stromberg Motor Devices Co.**

64 East 25th Street

Dept. 628

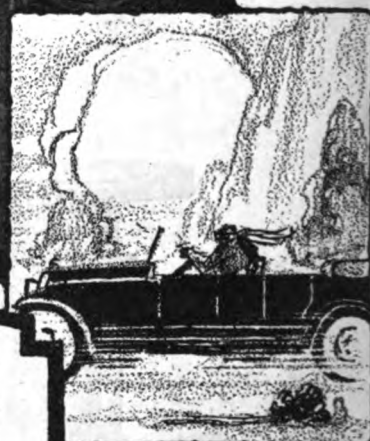
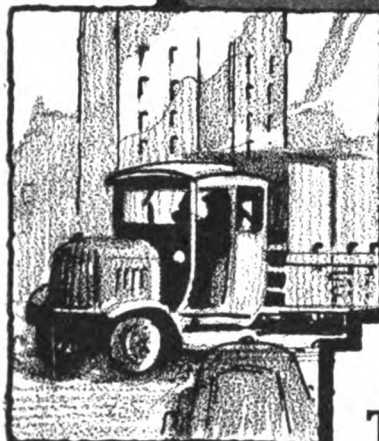
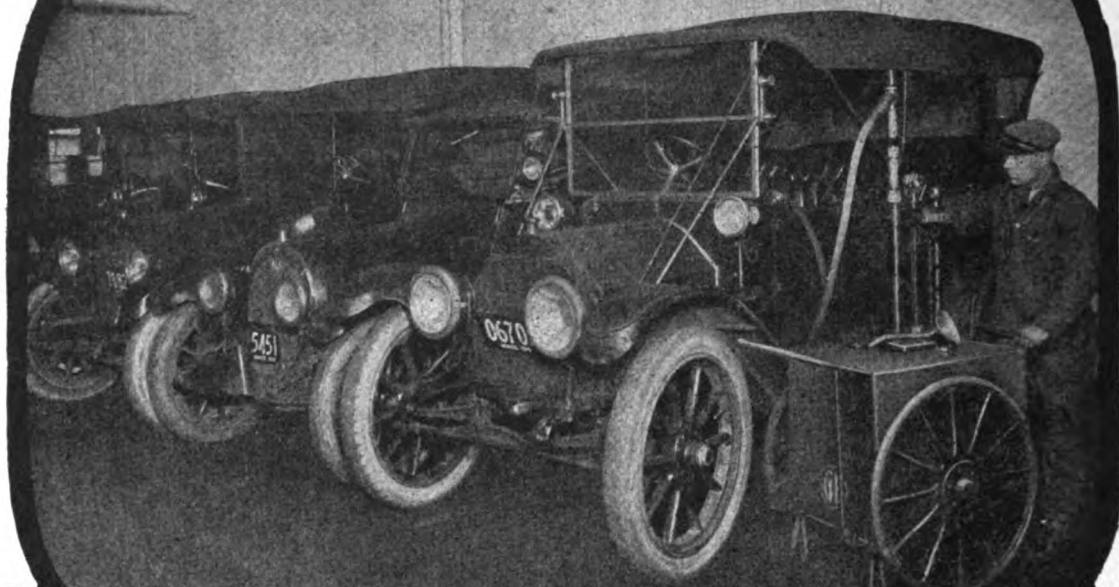
Chicago, Illinois



# New STROMBERG Does it! CARBURETOR



**Established  
1865**



**A Sensible, Sound Investment  
Paying Big Dividends**

## **The Gilbert & Barker T-57 Portable Gasoline Tank**

Thousands of garage-men know it, have profited by it.

An efficient, economical Gilbert & Barker T-57 Tank, as illustrated, serves the cars in your garage without the loss of a drop of gasoline. Time and labor and gasoline are saved. For curb trade the G. & B. T-57 Portable is quickly wheeled outside.

Accurate stops prevent over-measure. You can get every cent out of your gasoline.

It can't help paying for itself.

Our line of oil and gasoline systems is complete.

Send to-day for Bulletin 50.  
Convince yourself now. Write.

**GILBERT & BARKER MFG. CO.**

Established 1865  
SPRINGFIELD, MASS.



## Unusual Conditions

An occasional service station requires a large storage tank to serve an emergency—a sudden heavy demand for air. Between these rush periods are long intervals. The Brunner line, including an outfit for every conceivable garage condition, includes an outfit exactly suited to this special case.

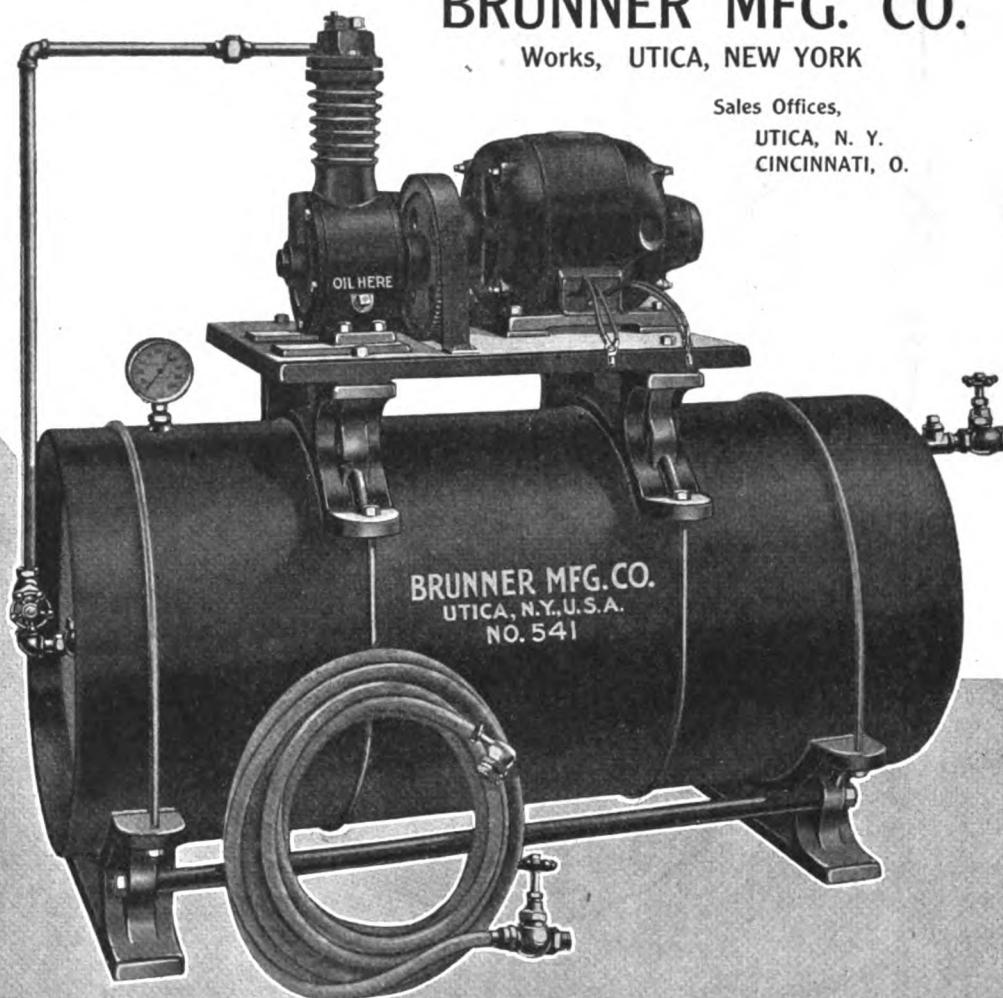
The No. 541 as illustrated, with automatic controller, will be ready for the emergency and yet prove most economical. The outfit is specifically suited to stations having spasmodic rush hours. This is a complete assembly, ready to run when removed from its crate.

Don't buy any machine until you know it meets your individual conditions. Brunner engineers have probably already designed an outfit to suit your purpose. This information will be valuable to you.

Write for quotations, giving full details and the name of your preferred jobber.

**BRUNNER****BRUNNER MFG. CO.**

Works, UTICA, NEW YORK

Sales Offices,  
UTICA, N. Y.  
CINCINNATI, O.



GURTIS TIRE AND RUBBER CO MUSKEGON, MICH.

*"Some Build  
More—  
None Build  
Better"*

**CURTIS**  
*Handbuilt*  
**TIRES**

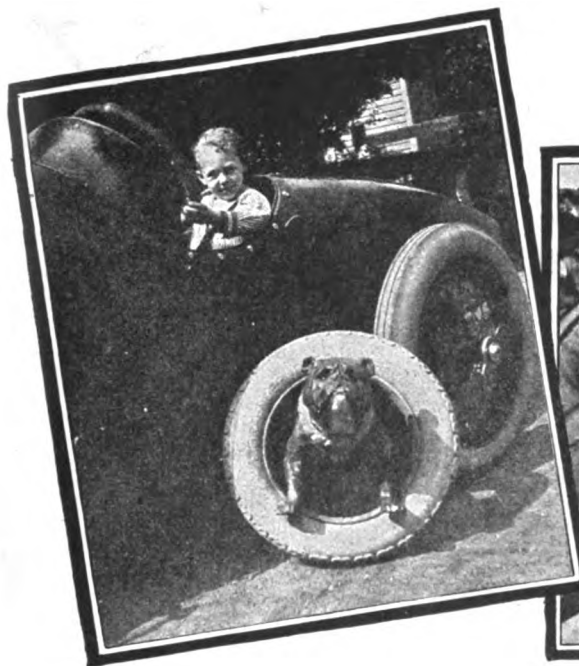
From Now ON

Your company --- Curtis  
Tires --- and our company  
can form a lasting and  
profitable partnership.

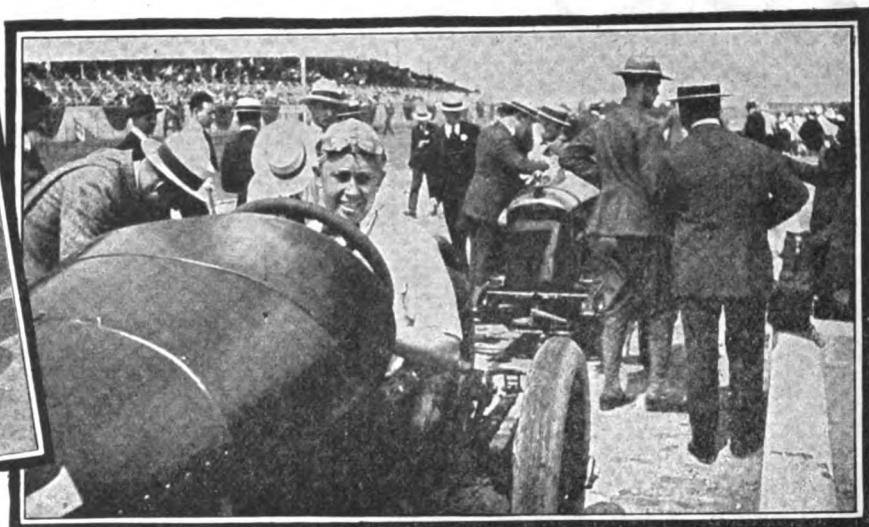
**Curtis Tire & Rubber Co.**  
Muskegon Michigan

CURTIS





*Ralph K. Mulford, Jr., in Daddy's  
Car day of race*



*Same tires after the race*

# AGAIN BRAENDER TIRES WIN!

**On Ralph Mulford's Frontenac Car  
at Sheepshead Speedway, June 14, 1919**

**First in Thirty Mile Race. Time, 16 min. 20  $\frac{3}{5}$  sec.**

**Beats old record by 11  $\frac{1}{5}$  sec.**

**First in Ten Mile Special. Time, 5 min. 24  $\frac{1}{5}$  sec.**

**Second in First Ten Mile Race (1/5 second behind the winner).**

**Time, 5 min. 20  $\frac{2}{5}$  sec.**

**Beats old record by 3  $\frac{2}{5}$  sec.**

**Leading the first 9 laps in the 50 mile Race. Discontinued on account of broken piston.**

## **WORLD'S RECORDS SMASHED**

**for 10 and 30 mile events.**

**Average speed 110 and 112 Miles per hour.**

# **BRAENDER TIRES**

**Unequalled for Speed, Endurance and Economy.**

**Not a single Braender Tire was changed at Indianapolis Speedway May 30, 1913,  
when the four Braenders on Mulford's Mercedes carried the heaviest car in the  
race the entire 500 miles.**

**BRAENDER RUBBER & TIRE COMPANY,**

**Factory: Rutherford, N. J.**

**BRANCHES:**

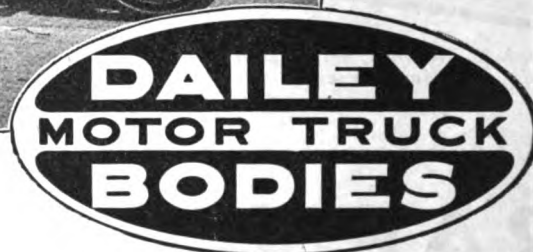
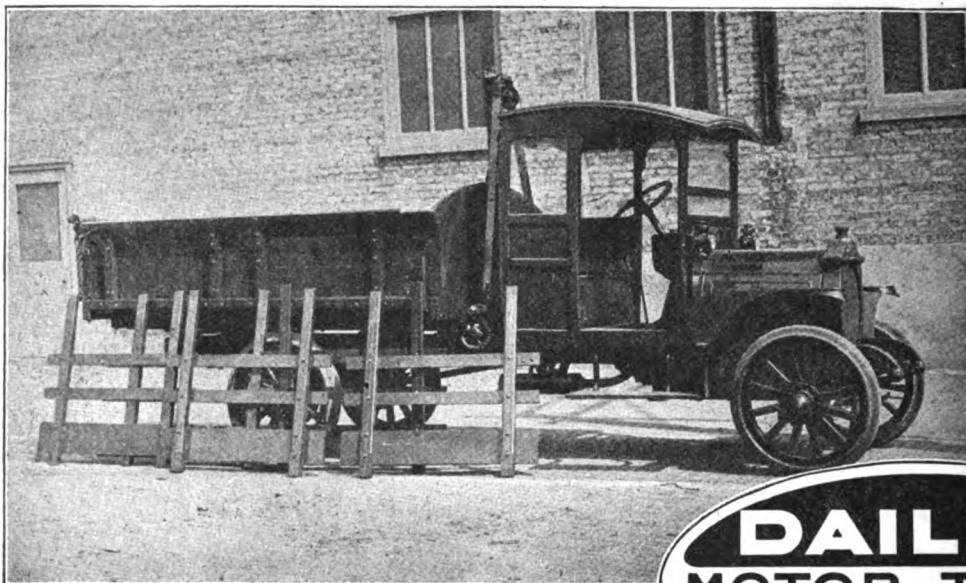
**Chicago  
64-72 E. 14th St.**

**New York  
32 Broadway**

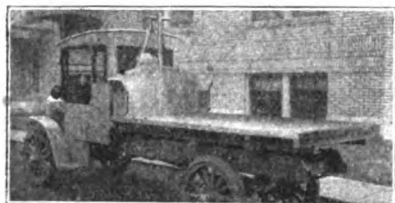
**Philadelphia  
1352 W. Girard Ave.**



# DAILEY



CHICAGO



**PLATFORM BODY**—For hauling bulky loads such as bagged cement, waste paper, light rubbish, pasteboard boxes, etc.



**EXPRESS BODY**—This type of body is best suited to carrying lump coal, trunks, packages, groceries, meat and odd loads.



**DUMP BODY**—Such loads as crushed stone, sand, gravel, fine coal, cinders, etc., are conveniently hauled and dumped by Dailey Bodies and Hand Hoist.



**STAKE BODY**—Is very useful. It can be most profitably employed in hauling barrels, boxes, furniture, lumber, pipe lengths, etc.

## Here's Why Dailey Bodies Mean More TRUCK Sales--

1. Dailey 4-in-1 Bodies and hand hoist equip one motor truck to do the work of four.
2. Truck buyers want trucks that will pay well in service and every buyer can see that Dailey Bodies are a big profit building asset.
3. Dailey Bodies and hand hoist carry an unrestricted guarantee for one year. No repair costs for the buyer.
4. Dealers can sell the 4-Bodies-in-1 or a single body should the buyer prefer it, for less than a one-purpose body. The remainder of the equipment can be added at any time.

Order a body for demonstration purposes. Watch your truck sales mount.

**H. R. DAILEY, U. S. Sales Agent**

3028 CARROLL AVE.

CHICAGO

Manufactured by Simplex Mfg. Co.

CONNEAUTVILLE

PA.

*Steel and Wood Body*

**•DISTRIBUTORS**

TROY TRAILER CO., 5 North 21st Street, Philadelphia, Pa.

AUTO TRUCK STEEL & WOOD BODY CO., Frisco Building, St. Louis, Mo.

THOMAS & COMPANY, Braddock Avenue, near Forbes Street, Pittsburgh, Pa.

HYDRAULIC HOIST MFG. CO., 715 Lorraine Avenue, Detroit, Mich.

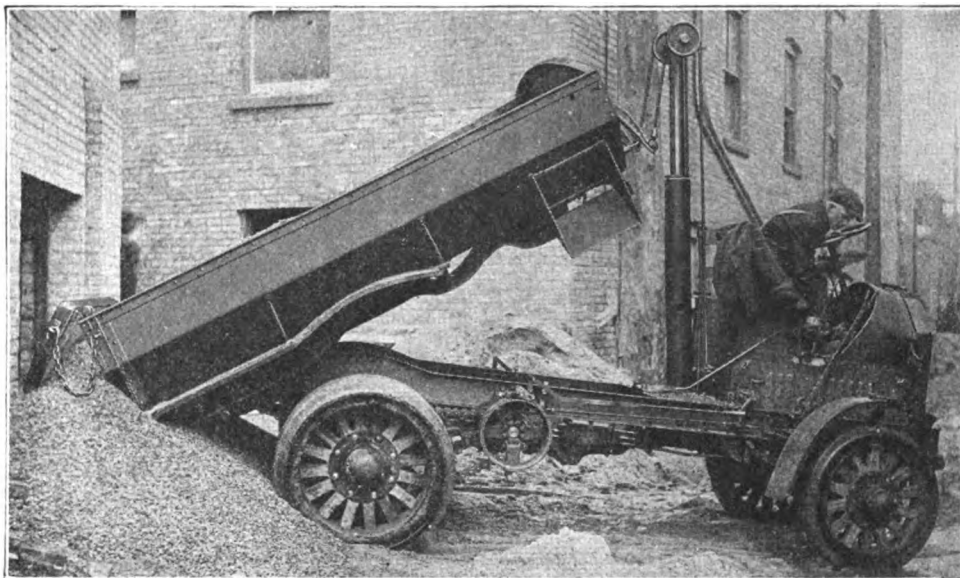
AUTO HOIST & BODY CO., 333 Avenue B, New York City, N. Y.

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# BODIES



## Steel Bodies that Stay on the Job—

We have made steel bodies of every type. Experience counts.

And we use only the best No. 8 U. S. gauge steel—laid out and assembled in the most careful manner known to steel body builders.

That is why our steel bodies stand up under all kinds of service and keep going.

If it's one of these standard bodies you want, we have them in stock. Wire us. The body will be shipped at once.

Or, send a sketch of the type you find most suitable. Our low price and quick delivery will surprise you. Each body is shipped complete ready for mounting.

## AUTO TRUCK STEEL BODY CO.

3028 CARROLL AVE.

CHICAGO

### Steel and Wood Body DISTRIBUTORS

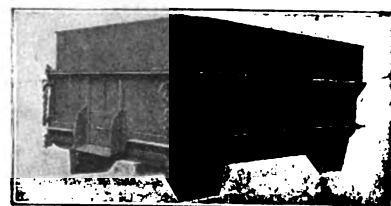
THE TRUCK ENGINEERING CO.,  
3533 Cedar Avenue, Cleveland,  
Ohio.

THE JOHN IMMEL & SONS CO.,  
Columbus, Ohio.

SIMPLEX MFG. CO., Conneaut-  
ville, Pa.

AUTO HOIST & BODY COM-  
PANY, 18 Bainbridge Street,  
Brooklyn, N. Y.

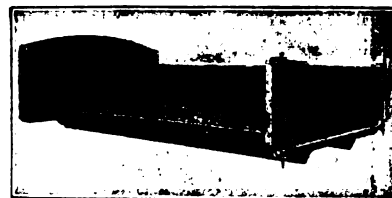
SIMPLEX BODY CO., 140 Rhode  
Island Street, Buffalo, N. Y.



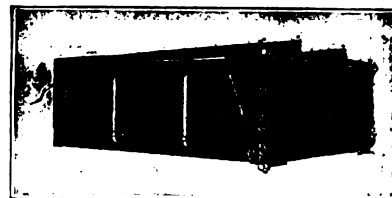
MODEL A—standard body, with chutes on side, removable side boards, double-acting tailgate with chain, small door and chute in rear.



MODEL A-5—standard body hinged side boards, chutes on side, double-acting tailgate with chain, small door in rear.



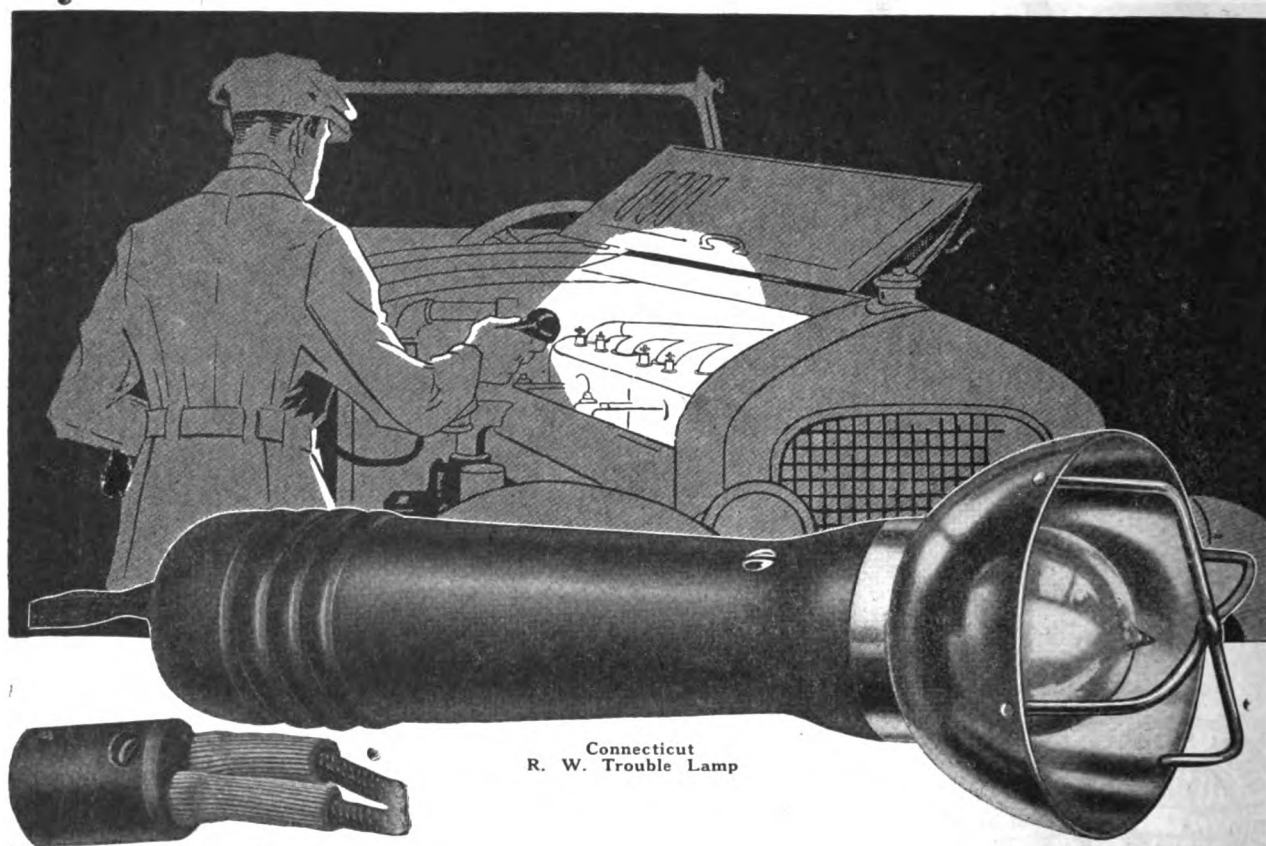
MODEL A-8—standard platform body with double-acting tailgate, removable steel side boards, 2" radius at bottom (square if preferred).



MODEL A-2—standard platform body with double-acting tailgate, removable wood side boards.

When writing advertisers please mention Motor World—it identifies you





Connecticut  
R. W. Trouble Lamp

## A Friend in Need

### *Everybody Needs a Trouble Light*

IT is as much a part of a car's tool equipment as a pair of pliers or a wrench. Let engine trouble, tire trouble or any unforeseen mishap occur while driving at night, and a good Trouble Lamp is a real friend in need.

The Connecticut R. W. Trouble Lamp illustrated above is made up in a neat, substantial manner with a solid brass reflector, heavily nicked and highly polished. A wire guard, so arranged that it can be collapsed for the removal or insertion of a lamp, protects the bulb against accident.

This lamp is fitted with a rubberoid handle and ten feet of black rubber covered Duplex cord, complete with attachment for plugging into lamp socket on dash.

The Connecticut R. G. Trouble Lamp is similar to the R. W. except that the bulb is protected by a high grade lens, which makes it, without doubt, the finest trouble lamp on the market.

Both the R. W. and R. G. Trouble Lamps are made with plugs for one or two wire sockets and each is packed in a tubular case with screw cover—the R. W. without the bulb—the R. G. with a six-volt, 4 C. P. light.



Connecticut  
R. G. Trouble Lamp

**CONNECTICUT TELEPHONE COMPANY**  
& ELECTRIC  
64 BRITANNIA ST. MERIDEN, CONN.

# CONNECTICUT

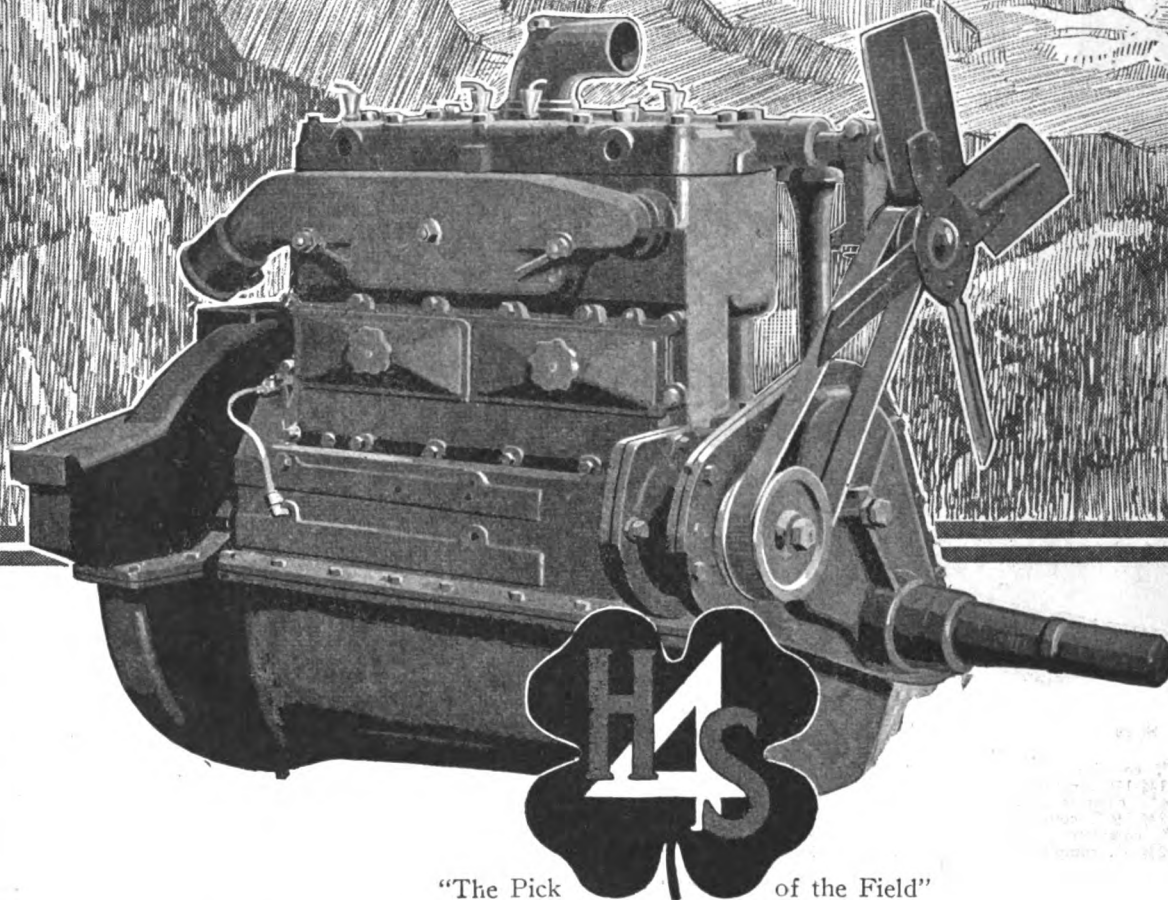
Reg. U. S.



Pat. Off.



# The Herschell 4 Spillman



"The Pick of the Field"

## The Peak of Power

The Herschell-Spillman "4" tops its class in power—develops driving force enough to propel your passenger car or light truck into fame and demand on a performance basis.

The Herschell-Spillman "4" is a 100% engine. It has the ability to perform and the courage to endure on this basis.

*Write for Facts*

**The Herschell-Spillman Motor Company**  
North Tonawanda New York, U. S. A.





## SHE'S HITTING ALRIGHT!

### The Pulse of the Car!

That's what the COOPER "SPECIAL" CUTOUT has been called.

And the title is a fitting characterization of this exceptional automobile accessory, for it instantly reveals the innermost ailments of any motor. It warns of carbon-clogged pistons—of missing spark plugs—of an over-rich mixture—whether the engine is evenly pulling—in short, like the pulse of the human body, the COOPER "SPECIAL" CUTOUT indicates with uncanny certainty just what is wrong with a faulty motor.

The COOPER "SPECIAL" CUTOUT is sturdily made to resist the ravages of heat and the gnawing tooth of time. It is readily attached by even the most amateurish mechanic. Its operation—aside from its trouble-exposing faculties—blasts out every particle of carbon—thoroughly cleaning the engine and leaving it full of vigor, pep and power.

*To Dealers: The COOPER "SPECIAL" CUTOUT offers to dealers a quick-selling accessory backed by a nation-wide campaign that brings business in pleasurable volume. An investigation of our dealers' offer will disclose a mighty worth-while proposition. Write today for the details.*

## COOPER MANUFACTURING COMPANY

DEPT. M, MARSHALLTOWN, IOWA

THE FULTON COMPANY—Sales Managers, Dept. M, Milwaukee, Wis.

When writing advertisers please mention Motor World—it identifies you

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New York Sun, June 8, 1919

## NASH QUADS WIN ARMY SHOW HONORS

Get First and Third Prizes in  
Sayn, Germany.

From "across the Rhine" comes testimony by the American Army of Occupation of further distinction accorded the famous Nash Quad. Word that two prizes respectively in the Divisional Motor Show of the Thirty-second Division has just been received by the Nash Motors Company.

Requirements under which the prizes were awarded were based upon military standards and were very rigid. That the two Quads secured top honors is another tribute to the dependability, durability and performance of the Quad.

Information concerning the outcome of the divisional show came in the form of a letter from Capt. Edward Dayton. The show was held at Sayn, Germany, near Coblenz, and was looked upon by army officers as one of the most important events to be held during the period of occupation.

The winning Quad, Capt. Dayton states, had to its credit a record of 5,000 miles, the awards, he says, having been based on the number of miles driven, the mechanical condition and the general appearance.

"The Quads had seen considerable usage," relates Capt. Dayton, "and the men in this organization were especially interested in the outcome."

"During the war period the Nash Motors Company built more than 12,500 Nash Quads for military purposes."



Of Course, They're Equipped with the

# EISEMANN

## MAGNETO

The vast majority of all trucks used by our Government in France were Eisemann-equipped—in the Ordnance, Signal Corps, Quartermaster, Ambulance and Medical Departments.

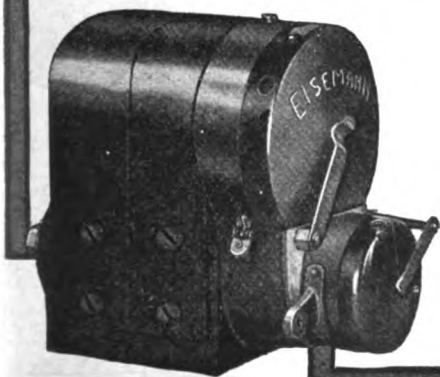
The magneto is the best ignition—The Eisemann is the best magneto!

**THE EISEMANN MAGNETO CO.**

32 Thirty-third St., Brooklyn, N. Y.

Chicago: 910 So. Michigan Ave.

Detroit: 85 Willis Ave., West





# THE *Two Cylinder* GENERAL LINE AIR COMPRESSORS

## Low Cost—Cool Air

Our 2-cylinder General Air Compressors are built to give trouble-free, low cost service. They are designed for efficiency and built with care. They have proved their worth in eight years of daily service in the hands of innumerable users throughout the United States.

General Air Compressor efficiency is due to the horizontal, opposed, 2-cylinder construction by which they give two-cylinder performance at one-cylinder cost.

They make available 5000 cubic inches of cool, clean air per minute—enough to inflate an average sized tire in two minutes.

General Pumps are shipped complete, ready for immediate use. Standard equipment includes special type  $\frac{1}{2}$  horse power G. E. ball bearing motor with direct shaft drive.

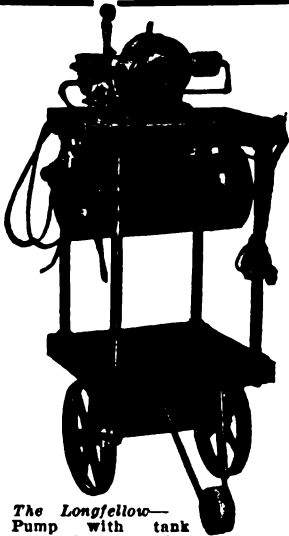
## Distributors and Jobbers

General Air Pumps are sold through exclusive distributors or jobbers in each territory.

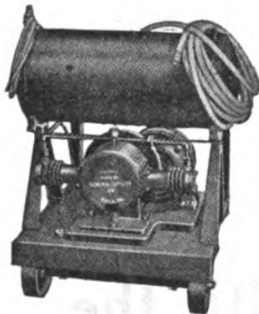
Jobbers should get in touch with us. If their territory is open we can make them a very advantageous proposition.

Ask for a copy of "Low Cost of Cool Air" with full information about line.

Our *Utility Model* combines an air compressor, air tank and oil service. The presence of the oil service—without a word from you—automatically suggests to the motorist that he buy oil.



*The Longfellow—*  
Pump with tank  
mounted on high  
portable truck. Far  
sighted production  
of special models to  
meet expected legis-  
lation dictates this  
model in some sec-  
tions.



*Victor Portable—Combination*  
Tank and Pump—Can be used  
either direct or in conjunction  
with air tank.



*Direct Portable Model.*  
Pumps cool air direct  
into the tire.



**UTILITIES SALES CORPORATION**  
Sales Representatives: **GENERAL UTILITY COMPANY**

1324 Ogden Street, Philadelphia, U. S. A.  
Suite 809 New Stock Exchange Bldg., Phila., U. S. A.



# MOLINE

## Commercial Bodies For Ford Ton Trucks

The outstanding advantage to Ford Dealers in handling the Moline Line of Commercial Bodies for Ford Ton Trucks and Model T Chassis, is that each sale brings in a substantial net profit, with no further service to give.

The high quality and complete adaptability of the Moline Bodies help sell the chassis and each yields a substantial profit.

In actual instances many dealers have increased their business 200 and even 300 per cent in one year.

Moline Commercial Bodies are built of the very best materials. They are exceedingly strong and heavily ironed. All panel bodies have heavy, durable automobile sheet steel sides, insulated by corrugated rubber strips to prevent road rumble.

No big stock to carry. Immediate delivery can be made from the nearest one of 23 Moline Branches. This relieves dealer of carrying complete stock.

Get the complete catalog of Moline Line of Commercial and Farm Bodies for Ford Ton Trucks and Model T Chassis.

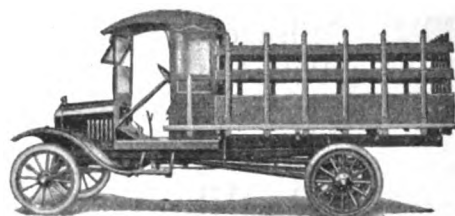
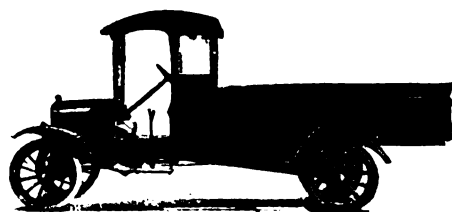
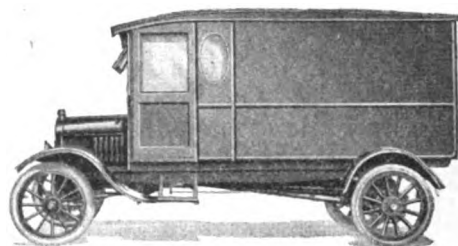
*We have an interesting proposition for dealers. Write or wire for it today.*

### MOLINE PLOW COMPANY

#### Moline, Illinois

##### BRANCHES AT

Atlanta	Salt Lake City	Jackson, Mich.
Minneapolis	Kansas City	Oklahoma City
Stockton	Spokane	Des Moines
Poughkeepsie	Omaha	Indianapolis
Baltimore	Los Angeles	
Minot	St. Louis	
Columbus, Ohio	Bloomington, Ill.	
Dallas	New Orleans	
Sioux Falls	Denver	



Factory:  
Freeport, Ill.

**MOLINE PLOW CO., MOLINE, ILL.**  
MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865



# Victor Tires

The logo features the word "MILEAGE" in a sans-serif font above a large, stylized downward-pointing arrow. The arrow is filled with a diagonal hatching pattern. Below the arrow, the word "HOGS" is written in a bold, sans-serif font.

**T**HE TIRES that never know when they have had enough—Mileage. Users say: "They surely are Mileage Hogs."

For more than 21 years The Victor Rubber Company of Springfield, Ohio, has manufactured rubber tires—their entire output being consumed by a favored clientele. Increased production now permits a much wider distribution of VICTOR TIRES to those who count their tire cost by the mile.

**DEALERS:** Every VICTOR dealer forms a link in the bond of Mileage Service extending from the VICTOR factory to the user. To safeguard the dealer and the user we authorize a

**5,000 Mile Guarantee**  
**The Minimum,**  
**Not the Limit**

Dealers will find the VICTOR line a profitable one, both for repeat business and for the liberal margin of profit on each tire sold. Ask about our dealer contract.

**THE VICTOR**  
**RUBBER COMPANY**  
Springfield, Ohio

**MILEAGE**

The logo features the word "MILEAGE" in a bold, sans-serif font above a large, stylized downward-pointing arrow. The arrow is filled with a diagonal hatching pattern. Below the arrow, the word "HOGS" is written in a bold, sans-serif font.





## Every Sale Brings—Repeat Sale—Profits

Show any customer how it works—right in your store—and the sale is made.

Then he becomes a steady customer of yours—for Patch-&-Heat Units to use with this vulcanizer.

Dealers sold more than a million Shaler 5-Minute Vulcanizers last year—and over 11,557,000 Patch-&-Heat Units. This is repeat business—repeat profits—that comes to you **without effort**.

Every motorist should carry a Shaler 5-

Minute Vulcanizer in his car for emergency use.

On the road—in the garage—or anywhere, it repairs tube punctures, cuts, etc., in 5 minutes—makes the tube as good as new, without delay—without trouble or annoyance.

Uses the combination Patch-&-Heat Units which include—the rubber patch—and the solid chemical fuel that burns without flame or blaze.

## Our Big Advertising Campaign Makes It Easy to Sell

Just as you are now reading this ad, so Motorists will read the dominant, attention-compelling Full Page Advertisements that will run throughout the entire spring and summer in Saturday Evening Post, Leslie's Weekly, Literary Digest, Colliers, Popular Mechanics, and other national magazines—all motorists' publications, and a large number of farm journals.

### Get These Quick-Repeat Sales Profits—

Order from your jobber now or write for full description and discount sheet if you are not familiar with this popular accessory.

**C. A. Shaler Company, 428 Fourth St., Waupun, Wis., U. S. A.**

*Oldest and Largest Manufacturers of Vulcanizers in the World*

# SHALER

## 5 Minute Vulcanizer



# STROM

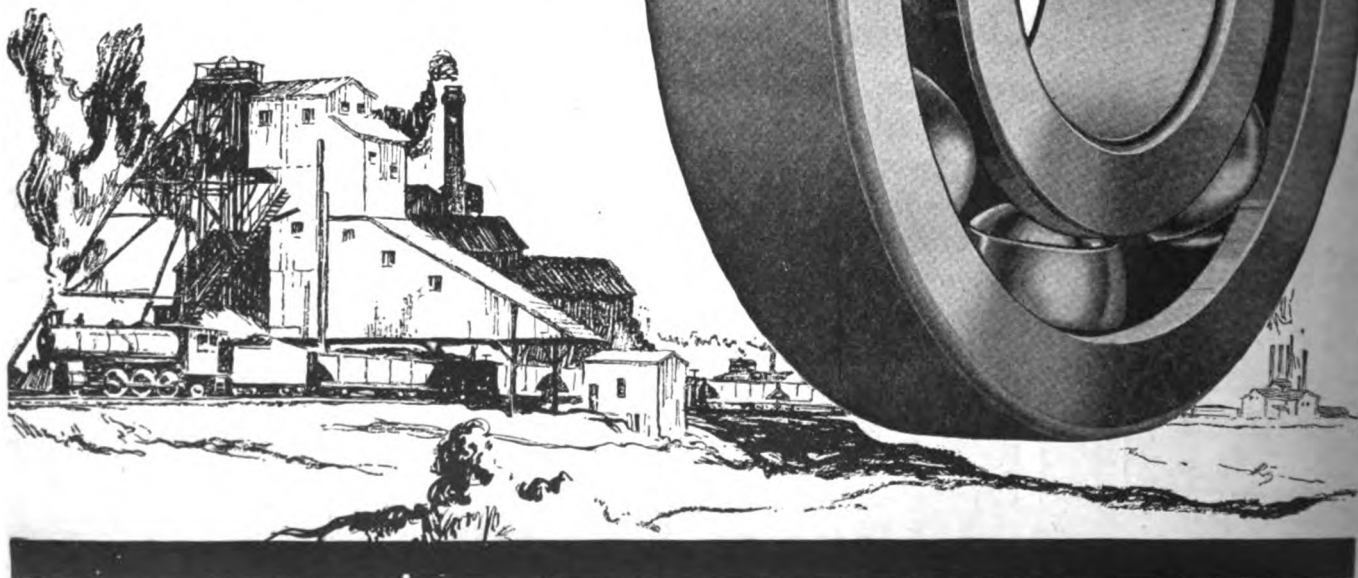
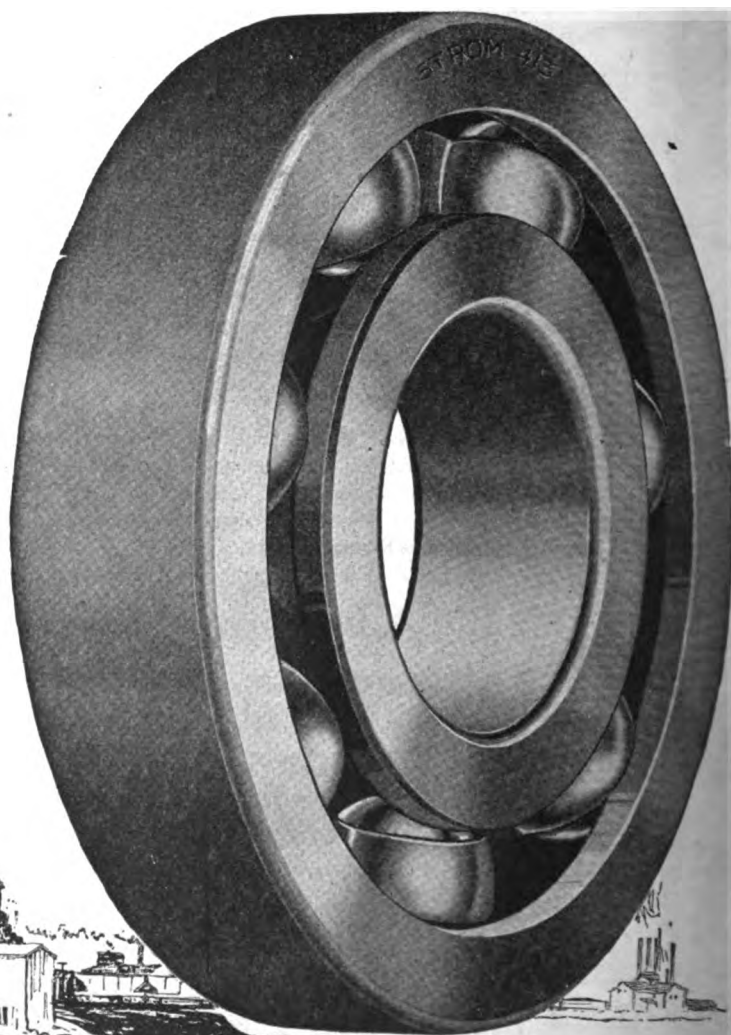
## BEARINGS

**B**ECAUSE they last longer and require less attention in use, Strom Bearings are now considered standard equipment wherever a shaft turns. By keeping friction at the absolute minimum they increase power without increasing its cost. Severest service has established their quality beyond question.

**U. S. Ball Bearing Mfg. Co.**

*(Conrad Patent Licensee)*

Palmer Street and Kolmar Ave., Chicago, Illinois







# NEVER BUDGED US!

## WALKER STEELBIT SHOCK ABSORBERS FOR FORDS

Bumps—ruts, rocks—they don't exist for the Ford owner with a set of Walker Steelbit Shock Absorbers on his car. The perfection of operation of Steelbit Shock Absorbers paves the way for easy, comfortable travel. A radical change in form of construction—and conceded by thousands of Ford owners—a change for the better.

Walker Steelbit double arm cantilever Shock Absorbers—multiply spring strength—add to driving safety—increase riding ease beyond anything you ever considered possible in a light weight car.

They're all steel—of greatest tensile strength—arms, rear perches, hooks, bolts. Unbreakable. Lighter. More durable. More attractive in appearance. Long, lively, oil tempered wire spring pillows car against shocks—saves it from tearing strain. Cold rolled steel spring bolts—hardened—kept constantly lubricated with oilers. No side-swags. No jolting, jump-back-into-place. Just a smooth, slow, easy swing. Least friction. Longest wear. Most economical in cost.

For Ford touring car or roadster. Complete. Installed in few minutes time by anyone. No holes to bore. Guaranteed satisfactory. The speediest seller on the shock absorber list—and the most satisfactory.

**WALKER MFG.  
COMPANY**

33 Hamilton St.  
RACINE,  
WIS.

**\$7.50**

Per Set of Four

## WALKER AUXILIARY RADIUS RODS FOR FORDS

PATENTED



No. 701—Made of solid  $\frac{3}{4}$ -in. steel rods. Malleable clamps. Weight 12 lbs.



No. 702—Made of 1-in. x 1-in. x  $\frac{3}{16}$ -in. angle iron. Weight 8 lbs.



No. 703—Made of 1-in. x 1-in. x  $\frac{3}{8}$ -in. angle iron. Jointed arms. Weight 5 lbs.



No. 704—Made of  $\frac{1}{2}$ -in. tubing. Malleable threaded clamp. Weight 5 lbs.

One of the liveliest sellers in the accessory line. Manufacturing rights protected by patents. Look out for infringements. Be sure to get Walker-made Rods.

Walker Radius Rods reinforce regular Ford Radius Rod. Brace front axle. Keep it straight. Prevent bending and breakage. Attached immediately. No holes to bore. Clamp to rear of regular rod—fasten to axle—using regular Ford Perch Bolt with exception of No. 701—which clamps to front axle.

Stocked by nearly all jobbers. If yours can't supply you write us.





# Quality

ENGINEERING practice in America has established the ball bearing as an essential in the best motor vehicles.

Based on competitive tests and actual past experience the preference of engineers seems to be focused on the New Departure line of Double Row, Single Row, Radax and Magneto Ball Bearings.

The "Ball Bearing Manual" is a new booklet of special value to those interested in bearing care and methods of assembly.

THE NEW DEPARTURE MFG. CO.,  
Bristol, Conn.

451

## New Departure Ball Bearings



**STAYBESTOS**  
Trade Mark Registered U. S. Pat. Off.

## S-M-C

### ASBESTOS BRAKE LINING

Look for those letters  
S-M-C on every roll of brake  
lining. They mean

## SAFETY MADE CERTAIN

Safety for the motorist because S-M-C is dependable in every emergency. Made of the highest quality asbestos compactly woven with friction wire interwoven, then compressed to exact size after being treated with the special S-M-C compound, making it slip-proof, heat-proof, water-proof, oil-proof and gasoline-proof.

Safety for the trade because the S-M-C proposition is the most attractive in the brake lining field. A quality product building a satisfied trade at an excellent profit. Because this modern factory can make all widths up to six inches—meeting a demand generally hard to fill.

Staybestos  
Mfg. Co.,  
5536 Lena St.,  
Philadelphia, Pa.

I want your quantity prices on S-M-C Brake Lining and Universal Transmission Lining—particularly on your Universal Ford Set.

Name.....  
Address.....  
City.....  
State.....

Get our quantity prices—they will interest you.

## STAYBESTOS MFG. CO.

5536 Lena Street  
PHILA.

Remember that Stay—it stands for Stability and Satisfaction.

The "Modern" Factory equipped to make all types of brake lining and all widths up to 6 inches.

# UNIVERSAL

Trade Mark Registered U. S. Patent Office

## TRANSMISSION LINING

—the live dealer's best bet.

Not alone because it gives longer service than any other cotton lining.

Not alone because it is absolutely chatterless.

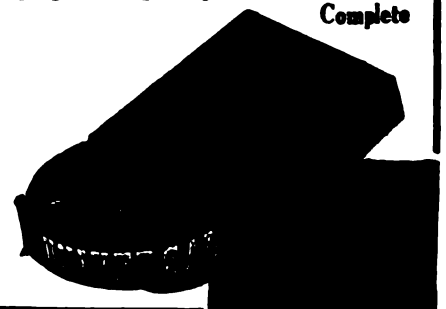
Not alone because it is compactly woven like S-M-C, then treated with a perfected compound which makes it slip-proof, water-proof and oil-proof.

But also because our

### HANDY SET FOR FORDS \$1.25

includes the three proper lengths for Ford transmission bands and all rivets required. Boxed in a package which sells as easily as a dependable spark plug—at a good profit

**1**  
Complete



When writing advertisers please mention Motor World—it identifies you

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# CONVERSE TIRES

*stay sold*

Wherever Converse Tires are sold *they stay sold*. They are a permanent and profitable asset to any dealer. Converse agents do much more than "just make a living"—they *get ahead*.

Converse Tires have always commanded a premium price—and this market is protected by confining agencies to just one dealer in a neighborhood. It will pay you absolutely to *be that dealer*.

CONVERSE RUBBER SHOE COMPANY, Malden, Mass.

New York: 142 DUANE ST.

Service Branches

Chicago: 618 W. JACKSON BLVD.

#### EXCLUSIVE DISTRIBUTORS

The Potter Hoy Hardware Co.,	Bellefonte, Pa.	Stratton-Warren Hardware Co.,	Memphis, Tenn.
Nash Hardware Co.,	Fort Worth, Texas	Wm. Stockhoff,	Louisville, Ky.
F. P. May Hardware Co.,	Washington, D. C.	Stauffer, Eshleman & Co.,	New Orleans, La.
McGowin-Lyons Hardware & Supply Co.,	Mobile, Ala.	Failing, McCalman Co.,	Portland, Oregon.
Sloss and Brittain,	55 Main St., San Francisco, Cal.		



## WAR RECORD NOT MADE PUBLIC

### The "Whitney" Special Quality "Type M" Chains

made a great showing during the war years 1916-1917 and 1918.

Our tests and demonstrations were made on prominent 8-cylinder motors in service on a large number of cars owned in the State of Connecticut.

During this long period not a single "Whitney" Chain or Sprocket had to be replaced and the condition of every Drive has been pronounced remarkable.

One Drive recently examined had given over 35,000 miles' service and both Chains and Sprockets were in such perfect condition that they appeared good for more than double that record (Sprockets having no adjustment).

The links of this SPECIAL CHAIN have finished faces and reamed holes, and the smooth faces do not damage the Sprocket teeth.

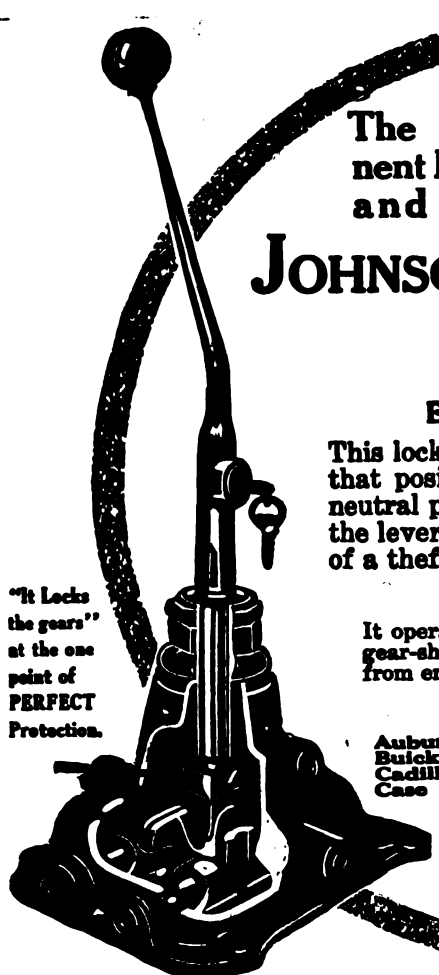
The most startling feature in connection with this record is that the links were made of ordinary carbon steel to demonstrate the value of our construction and Special features.

Our war contracts were such that we did not announce this SPECIAL CHAIN until after the colossal conflict was over.

THE WHITNEY MFG. CO.

Hartford, Connecticut.





**The CHOICE of Prominent Dodge-Cadillac-Buick and other Dealers.**

## JOHNSON AUTOMOBILE LOCK

**Endorsed by Underwriters.**

This lock is the only gear-shifting lever lock that positively locks the gears of cars at neutral position. It is an exact duplicate of the lever now on your car with the addition of a theft proof yale locking device.

**"It Locks the Gears"**

It operates by forcing a plunger between the gear-shifting forks, and prevents the gears from engaging the transmission.

**Made for these Cars**

Auburn	Chandler	Oakland
Buick	Dodge	Oldsmobile
Cadillac	Haynes	Roamer
Case	Moline-Knight	Westcott

**Exclusive Distributors:**  
**THE EDWARDS SALES CO.**  
 A Selling Corporation  
 St. Louis, U. S. A.

**"It Locks the gears" at the one point of PERFECT Protection.**

A few of the many DODGE Dealers who sell and fully endorse Johnson Automobile Locks.

Little Rock, Arkansas,  
S. R. Thomas Auto Company.

Atlanta, Georgia,  
J. W. Goldsmith Jr.-Grant Co.

Chicago, Illinois,  
Deshield Motor Company.

New Orleans, Louisiana,  
Fairchild Motor Car Co.

Baltimore, Maryland,  
Eastwick Motor Company.

Boston, Massachusetts,  
Henshaw Motor Company.

Detroit, Michigan,  
Thomas J. Doyle.

Minneapolis, Minn.,  
Harvey E. Mack.

St. Louis, Missouri,  
Tate-Gillham Motor Car Co.

Omaha, Nebraska,  
O'Brien-Davis-Coed.

New York, N. Y.,  
Colt-Stratton Company.

Brooklyn, New York,  
Bishop-McCormick & Bishop.

Cleveland, Ohio,  
Cleveland Cadillac Company.

Columbus, Ohio,  
Ohio Auto Sales Company.

Philadelphia, Pa.,  
Thornton Fuller Automobile Company.

Pittsburg, Pa.,  
Hiland Automobile Company.

Memphis, Tennessee,  
Schlecht Motor Sales Co.

Dallas, Texas,  
Trisky Motor Company.

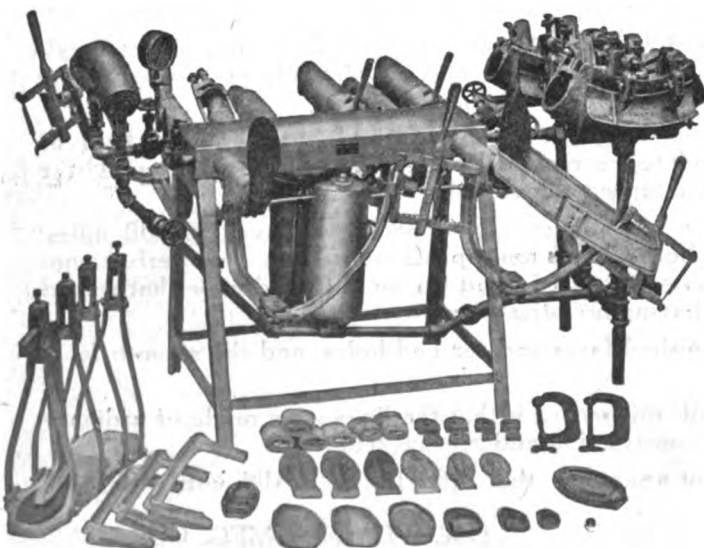
Fort Worth, Texas,  
Cooke Boyd Motor Company.

San Antonio, Texas,  
A. E. Stucke Auto Company.

Future advertisements will announce the names of many other prominent motor car dealers who sell Johnson Locks for Cadillac, Chandler, Haynes and other makes of cars.

# VULCANIZE

## It Is Highly Profitable



MODEL No 4

Many repairshops are equipped with the Arthur Combination Tire and Rubber-Footwear Vulcanizer. It gives them the advantage of a large variety of repair work which keeps the shop busy all the year round, Summer and Winter.

### ARTHUR FOOTWEAR VULCANIZERS

No repairshop is complete without equipment for repairing rubber footwear. The Arthur Footwear Vulcanizer proved its worth in the repairing of the rubber boots and arctics in the American Salvage Plant of our Army in France. It will do the same work in your shop.

### ARTHUR TIRE VULCANIZERS

Are made either in combination with the Footwear Vulcanizer or as separate units for tire repairs only. Our experience has developed equipment of high efficiency—hence the most profitable for you to use.

WATCH FOR OUR ANNOUNCEMENT  
OF NEW MODELS IN 30 DAYS

Write for full information and catalogue

**THE ARTHUR VULCANIZING  
MACHINE CO.**

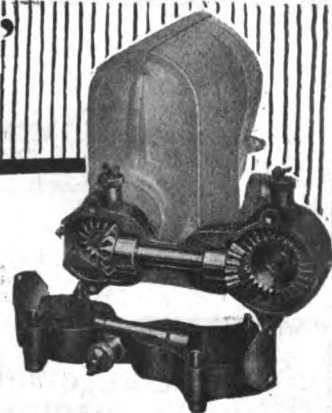
GRISWOLD STREET

WARREN, OHIO



**"Here's the answer—"**

## High Tension MAGNETO ATTACHMENT for FORDS



Magneto ignition was a big factor in winning the war. On every road in France and on every battle front, the magneto was standard equipment on trucks, tractors and tanks. The magneto increases power, speed and flexibility, saves gas, simplifies wiring and means easy starting and quick pick-up.

# HY-TEN

### Magneto Attachment

With the HY-TEN, a novice can quickly install, in 30 minutes without special tools, an Eisemann, Bosch, Splittdorf, Sims or any other standard magneto on a Ford car.

Simple in construction. Attachment complete (magneto base, gear housing, gears, spark advance rod, with all bolts and screws necessary for installing).

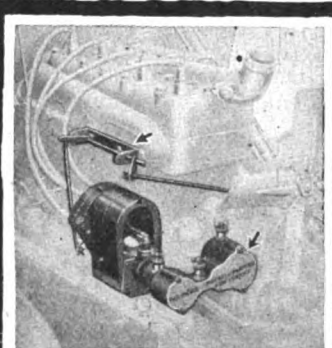
**Retail price, \$25.00.** Liberal Trade Discounts.

A big money-maker for live dealers. Write for Agency Proposition.

**MAGNETO PARTS COMPANY**

1790 Broadway

New York



# BEST IN LIBERTY THE WORLD

## ANNOUNCEMENT

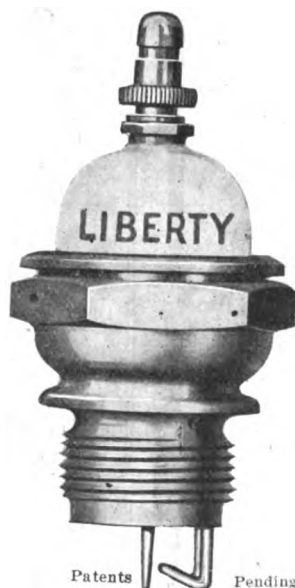
The LIBERTY SPARK PLUG was invented nearly three years ago. Owing to the War, it was not put on the market in quantities until now. We wish, at this time, to announce that there is no better plug on the market. It is a quality plug, the best ever made. You will soon be able to get LIBERTY PLUGS from your Dealer or Jobber. Ask for the original "LIBERTY" (trade mark registered). If they haven't them yet—write us direct. Ask for the "Dome Top"—you can tell it on sight.

**A SIZE FOR EVERY MOTOR**

**L-O-O-K for THE \$1.50  
DOME TOP, Price**

## TRADE MARK REG. SPARK PLUG

STONE INSULATOR



BRASS SHELL

Patents Pending

## NOTICE

The Liberty Insulator was perfected from the ground up by an engineer who did not guess or experiment thousands of times. He found the only perfect insulator material.

### EUROPEAN STEATITE

Then—what is the only shape that will stand the maximum pressure for its size, and be practical and attractive?

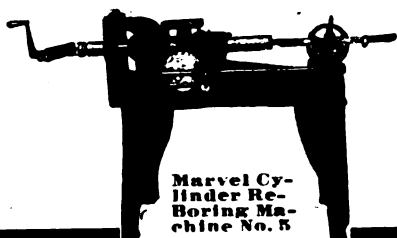
It was the answer to this question that gave the world the LIBERTY DOME TOP SPARK PLUG. A Dome or Ball-shaped Insulator is the only one that will stand the pressure to make a Spark Plug gastight, without breaking under constant vibration. Standing 10 tons' pressure in a crush machine; 65,000 volts at its weakest point.

**L-O-O-K for THE \$1.50  
DOME TOP, Price**

The LIBERTY SPARK PLUG is the most attractive—the most efficient—the most durable Plug made. Sells on sight—lasts the life of your motor

**LIBERTY IGNITION COMPANY, 107 Massachusetts Ave., Boston, Mass.**





### A MARVEL CYLINDER RE-BORING MACHINE NO. 5

## Multiplies Your Man Power

After the MARVEL No. 5 is set, the operator can attend to other work, as the MARVEL No. 5 has an Automatic Feed Release—it stops where it is set to stop.

The MARVEL No. 5 is power driven, automatic, efficient, substantial, and is easily operated.

The MARVEL No. 5 is speedy and handles any Gas Engine from a Motorcycle to a Tractor.

At no season of the year is the need of a MARVEL No. 5 greater than in the summer time—

When speed, quick service, accurate, careful work is required—when the car is on the "GO" and the owner wants to keep it going.

## CYLINDER RE-BORING

pays a handsome profit if done on a MARVEL No. 5.

There is no class of work brought to your shop that pays better—there is an endless, and an ever-increasing, amount of cylinder re-boring waiting for the man who goes after it.



Equip your shop at once to get this business—be in position to Re-Bore Gas Engine Cylinders and fit them with



### MARCO OVERSIZE PISTONS

Write to-day for our proposition. You'll find it mighty interesting to read about—and mighty profitable to accept.

### MARVEL MACHINERY COMPANY

1313 South Third Street, Minneapolis, Minn.

In writing use address in full—it expedites delivery.



*Probably the best all-round wrench set ever assembled. Ten of Williams' Superior Drop-Forged Wrenches in a durable canvas roll.*

## Williams' Wrenches in Sets

MANY desirable assortments of our *Superior* Drop-Forged Wrenches, with openings milled to U. S. and S. A. E. Standards, are packed in serviceable canvas rolls, assuring economy, convenience and neatness. Remember, we make and carry regularly 40 standard patterns of Wrenches in about 1000 sizes, with openings from 3/16 to 7 5/8"—something *Standard* for every wrench need.

Booklet, describing our Wrench Sets, sent on request.

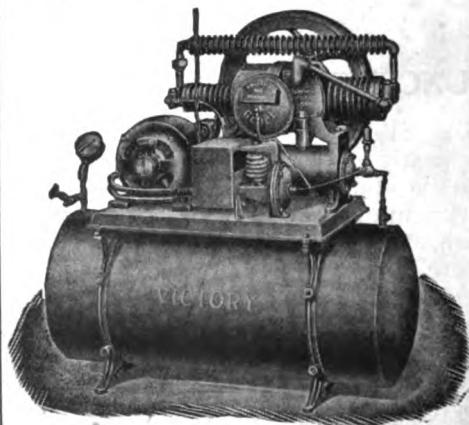
### J. H. WILLIAMS & CO.

"The Wrench People"

29 So. Clinton St., Chicago, Ill.

29 Richards St., Brooklyn, N. Y.

## VICTORY



Complete Automatic Compressor Unit

A C E OF ACES

GLOBE TYPE B—Original Two-Stage Garage Compressor. Saves power, time and money.

WONDERFUL new system of AUTOMATIC LUBRICATION insures Oil-Free Air, provides abundant and continuous lubrication and wastes NOT AN OUNCE of lubricant.

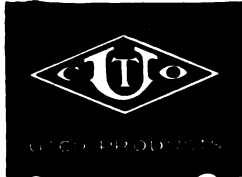
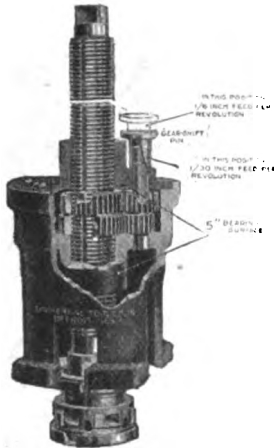
Automatic Pressure Unloader protects belts, fuses and motors.

15 Sizes and Styles of LAST WORD Equipments from which to select.

Desk F.

Globe Manufacturing Co., Battle Creek, Mich., U. S. A.





## Make This Profit Yourself

Rebore Cylinders in your own Garage. Keep this profitable business to yourself instead of sending motors back to the factory. You can rebore a cylinder on any motor in twenty minutes or less with a Universal Cylinder Reboring Tool—and do a perfect job.

The tool is adjustable—you can make a cut of one or thirty-one one-thousandths of an inch in a single operation.

There is nothing complicated about it. You simply set the cutters, clamp the heavy base on the motor cylinder and bore the cylinder by hand or under a drill press—the tool centers itself.

Manufacturers of the finest motors who have tested out this tool use it and have adopted it as standard for their equipment

Reboring cylinders with a Universal Cylinder Reboring Tool is profitable.

See Current Issue Automobile Trade Trade Directory for list of jobbers carrying stock.

*Write for Catalog. Mailed Promptly on Request*

**THE UNIVERSAL TOOL COMPANY, Inc.**

435 WOODWARD AVE.

DETROIT, MICHIGAN

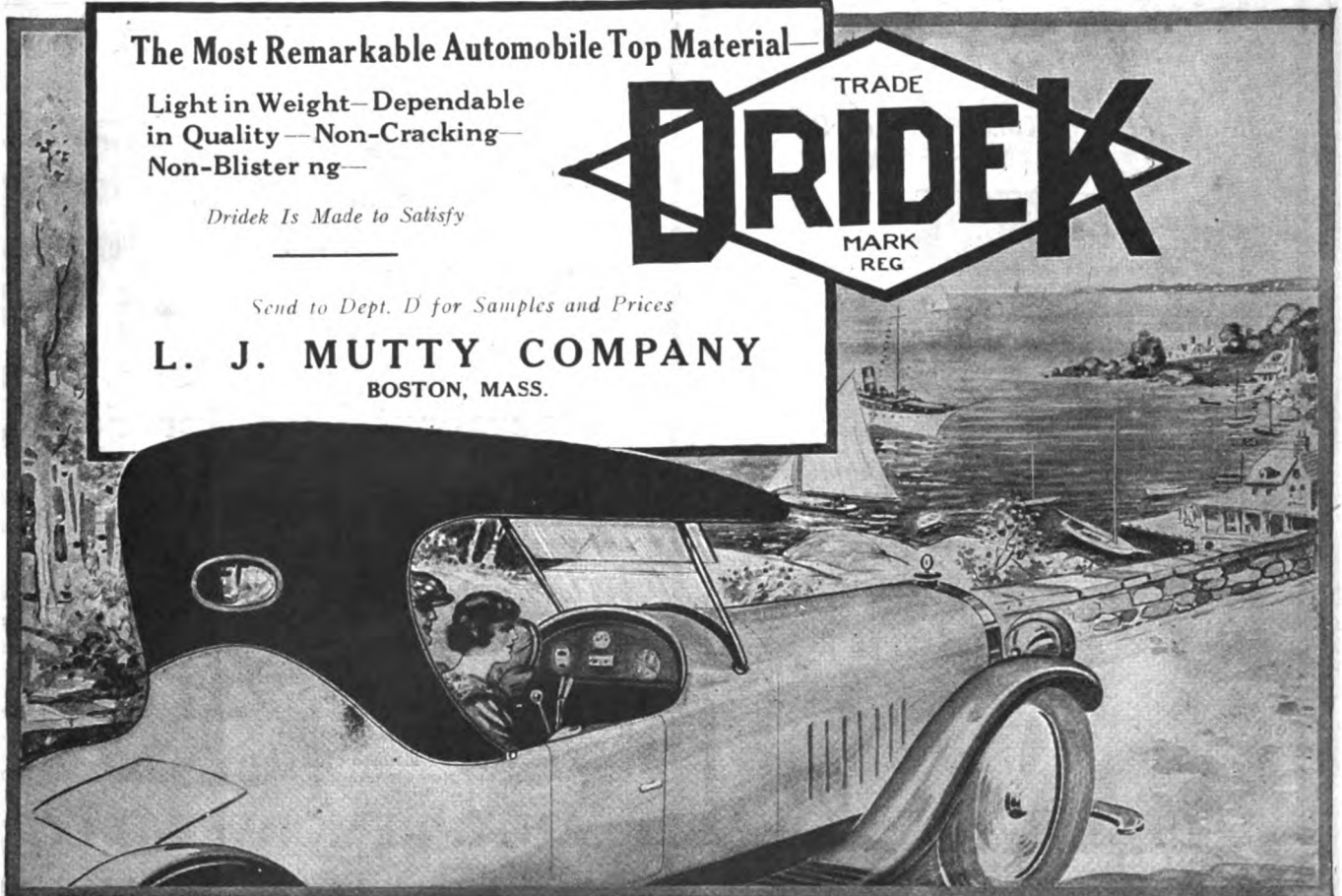
**The Most Remarkable Automobile Top Material—**

Light in Weight—Dependable  
in Quality—Non-Cracking—  
Non-Blistering—

*Dridek Is Made to Satisfy*

*Send to Dept. D for Samples and Prices*

**L. J. MUTTY COMPANY**  
BOSTON, MASS.



When writing advertisers please mention Motor World—it identifies you



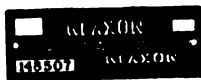
**KLAXON 20-L**

The finest Automobile Warning Signal made. Penetrating tone, distinctive construction. Needs practically no attention whatever.

\$27.75

The Klaxon reputation of quality Warning Signals helps ease the way for continual sales.

Look for the Klaxon Name Plate



**KLAXON**

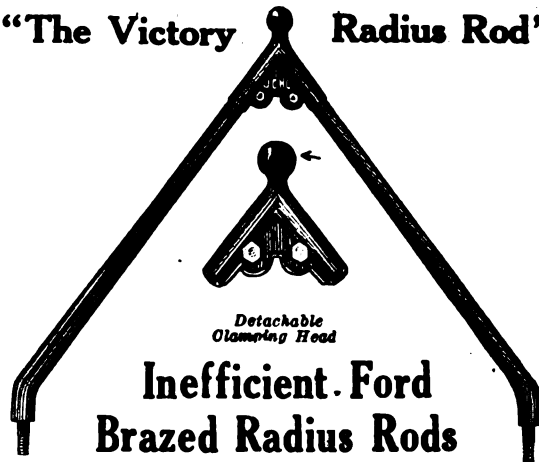
Company :: Newark, N.J.

Motor Equipment Division,  
Detroit, Mich.

Wholesale Division,  
Newark, N. J.



## "The Victory Radius Rod"



Detachable  
Clamping Head

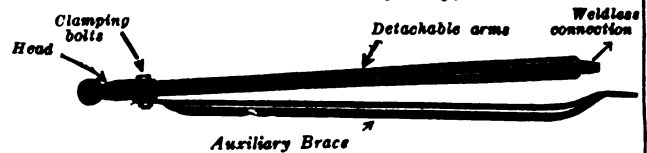
### Inefficient. Ford Brazen Radius Rods

FORD DEALERS—Replace them with the fast selling J. C. M. Radius Rods. These are not brazed. The head ends are firmly clamped in our patented socket. The illustration shows the arrangement. The axle or stud ends are attached to the tubes by a patented process. Note the bent ends. The J. C. M. rods are first of all stronger than the ordinary ones, but most important.

#### J. C. M. RADIUS RODS

Can be quickly replaced by the owner on the road or elsewhere in case of a buckle or break. The clamping joint does the work. Provision is also made in this joint for permanent lubrication to prevent the squeak. This is the most useful Ford improvement ever made. The J. C. M. rods will sell on sight. Every Ford owner who has had trouble in this way will buy them. You can also build a big trade in the auxiliary rod shown below. It kills steering wheel oscillation. Get our liberal dealer offer.

**JERSEY CITY MACHINE CO.**  
115 Plymouth Street Jersey City, N. J.



### Raceabout Body for Fords

Here is a body that is absolutely the classiest, most substantial and fastest seller on the market. The Remo stands in a class by itself when it comes to looks and durability. Extremely easy to attach. No disappointments for the buyer. Satisfaction is built right into it.

Model "SS" is the very latest—up-to-the-minute in design and built for long, hard service.

#### Dealers

Some good territory still open. Look over the following description. This is a product that will make big money for every aggressive dealer.

The big feature of REMO Model "SS" is the mounting. All red tape in attaching to the chassis is done away with. No change in dash. No block needed for lowering steering post. Everything complete and ready to slip on like a regular Ford body.

Wind shield is ventilating and adjustable. Top is military style—made of mohair complete with side curtains.

Write for sales proposition.

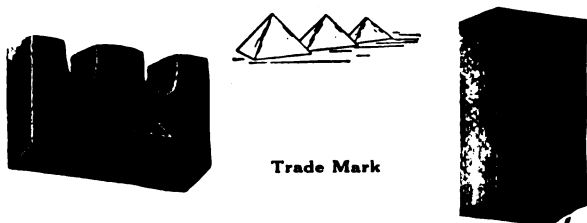
### AUTO REMODELING CO.

1501 Michigan Ave.

Chicago, U. S. A.



# Pyramid Brushes



## FOR AUTOMOBILE Starting and Lighting Outfits

Fussing around in a hit-or-miss fashion trying to fit the proper brush on a starting motor or lighting generator is misdirected energy. Get a stock of Pyramid Brushes and eliminate all uncertainty in brush replacements.

Accessory dealers and garage men are reporting a big sale of these brushes and are making a neat profit.

*Write for catalog No. 36*

**National Carbon Co., Inc.**

Cleveland, Ohio.



The Only Automatic All Size Positive Alignment  
and Measured Delivery Manifolding Devices

## Your Success in the Automotive Industry

Does not depend alone upon the amount of business you do, but also upon the securing of proper returns.

This is accomplished by absolutely controlling your business activities from a central point—one of the fundamentals of business efficiency.

### DISCARD GUESSWORK SUBSTITUTE SYSTEM

It will assure you financial returns compatible with the amount of business done and incidentally please your customers.

Write and let us give you the details of  
"Shouperior Systems."

Time-Saving, Error-Correcting,  
Falsification-Preventing

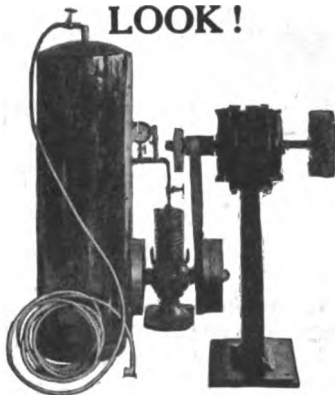
Now used by firms of national importance. More complete information and names of users at your command for the asking.



**Autographic  
Register Co.**

Hoboken,  
N. J.

## DEALERS! GARAGE MEN! REPAIR MEN! LOOK!



**LE BRON ELECTRIC BUFFING AND GRINDING  
MACHINE**

**CONNECTED TO AIR OUTFIT IF DESIRED**

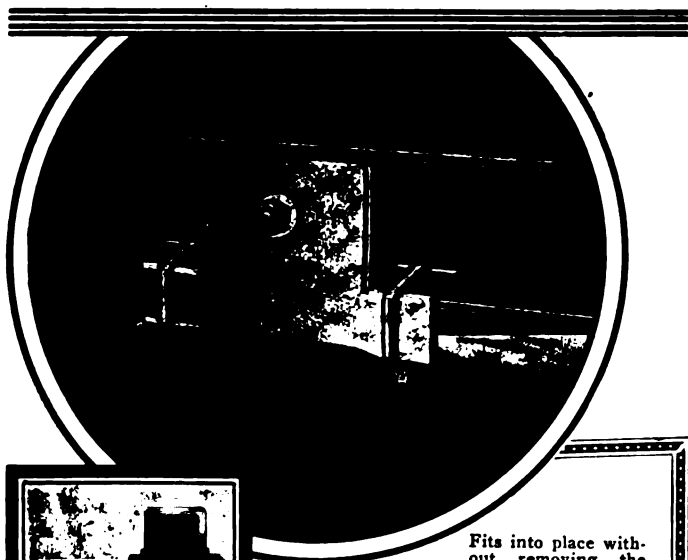
Just what you've been looking for. The most compact, efficient outfit ever designed for garages and repairmen. 2, 3 and 5 H.P., any voltage, motor. Motor is dust proof and runs on ball bearings.

**THEY'RE GOING FAST! GET YOURS NOW!  
DEALERS: WRITE FOR LIBERAL PROPOSITION**

**LE BRON ELECTRICAL WORKS**

318 So. 12th St., OMAHA, NEB.





Fits into place without removing the engine or drilling a single hole.

Supports and holds the crankcase better and more securely and reinforces the original Ford arm.

# Goodrich

CRANKCASE REPAIR OR REINFORCING ARM

## With Speed and Dispatch

You can easily and quickly reinforce the supporting arm of your Ford crank case by fitting the Goodrich Repair Arm over it.

It will greatly strengthen the regular Ford arm. It supports and braces the frame, making the crank-case firm and safe against damages permanently.

Or, if the supporting arm is broken, it can be repaired in fifteen minutes with the Goodrich Repair Arm.

You don't remove the engine, you don't drill a single hole. It's all ready to attach by just unscrewing three bolts, and putting them back again.

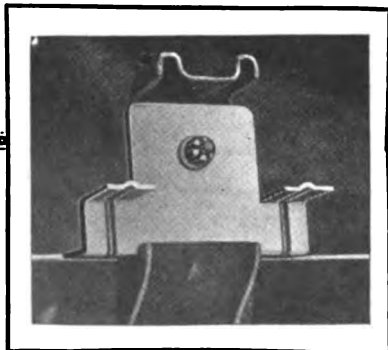
Don't wait for trouble. Get a Goodrich Repair Arm now. It fits all models of Fords. List price \$1.25.

**GOODRICH-LENHART MFG. CO.**

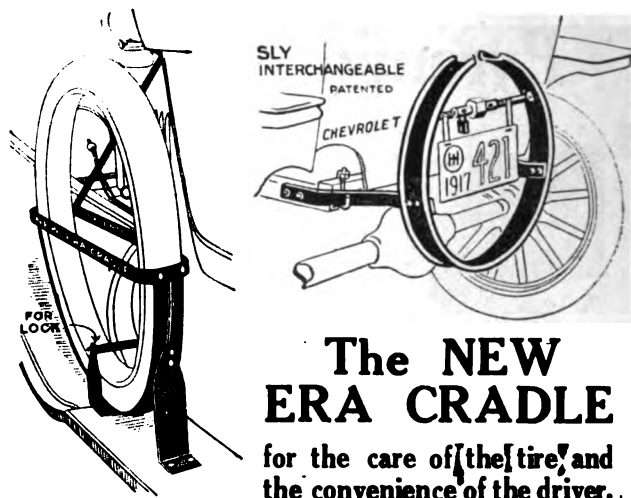
419 Widener Bldg.,

Philadelphia, Pa.

Factory:  
Hamburg, Pa.



**DEALERS:** Thousands of Ford owners are going to need the Goodrich Repair Arm this year. Jobbers, dealers and repairmen cannot afford to be without it.



## The NEW ERA CRADLE

for the care of the tire and the convenience of the driver.

The NEW ERA Cradle is a popular priced, well-made Carrier.

Made to accommodate a 30 x 3 1/2" plain or non-skid tire. A double cradle will carry two spare tires and their rims, inflated, and the rear cradle is provided with accommodation for lamps and license.

All Cradle Carriers are built to take a lock.

**PREVENT TIRE THEFT—PROVIDE TIRE SECURITY and ADD TO THE CONVENIENCE OF YOUR SPARE TIRE EQUIPMENT.**

Write us for full information on NEW ERA "Better" Spring Bumpers for all makes of cars—"Better" Tire Carriers—"Better" Springs—or nearest jobber's address.

**New Era Spring & Specialty Co.**

1179 Hamilton Ave.

GRAND RAPIDS, MICHIGAN

## Here's a One-Man Dump Body Ford Dealers Will Appreciate

Easily installed on a Ford Truck or any other chassis. One man from the driver's seat can dump load with one hand.

The dumping mechanism is wonderfully simple. Attracts interest at sight.

The rear gate operates automatically, opening as the body is tipped up, closing securely when it is lowered. A specially attractive feature of our special body for Fords is that the top of the body is only 4' 10" from the ground. This saves time and labor in loading with shovels.

A blacksmith can make any repair it will need.

Ford Body, complete, \$200.00. Bodies for other trucks,

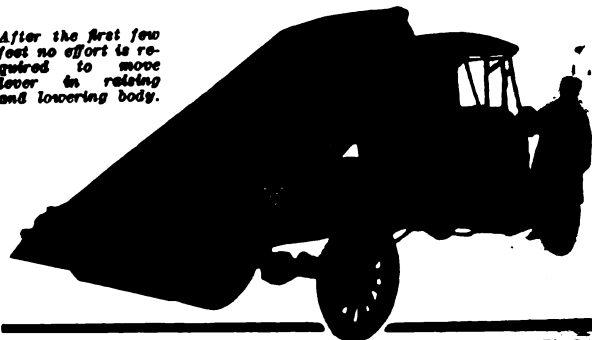
\$200.00 to \$275.00 F. O. B. Roanoke, Va.

State make of truck in order.

**Agents wanted in open territory**  
**JENNINGS AUTOMATIC DUMP BODY, Inc.**  
Roanoke, Va.

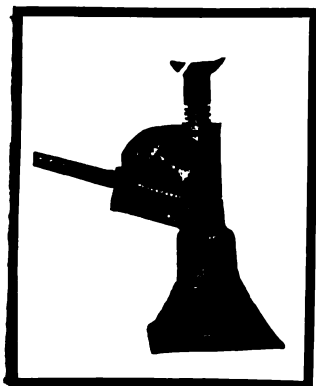
New England and Middle States will be handled by  
Columbia Wagon Co., Columbia, Pa.

After the first few feet no effort is required to move lever in raising and lowering body.



**JENNINGS AUTOMATIC DUMP BODIES**





### To Car Manufacturers

The Benedict Universal Jack should be specified as standard equipment on your product. Its strong features of design make it best adapted to meet the requirements of owners. This jack is the most powerful, size and weight considered. It is the quickest and

easiest operated. It is a model of strength, endurance and correct mechanical design.

### The Benedict Universal Jack

Is of the worm-drive ball bearing type. All working parts are built of best steel (worm drive case hardened). The long handle permits the jack to be used under any part of the car without the necessity of the operator's stooping or crawling.

Let us send you full descriptive matter, prices and discounts.

NAT ONAL MACHINE CO.  
Brattleboro, Vermont



## 25,000 to 35,000 Miles Is a Frequent Record



**SWINEHART** Ideal Tires will give your customers mileage they have never known before. Scores of users will confirm the statement that they are securing 25,000 to 30,000 miles of service—frequently under the most severe conditions.

Their extra height means greater volume of rubber with more cushion, better shock-absorbing qualities and increased capacity.

Write us for list of users.

Dealers—We have some open territory

**Swinehart  
Tire &  
Rubber  
Co.**

Akron, Ohio

# Swinehart IDEAL TRUCK TIRES



**\$3.00**

WATER GAUGE

## MOTOR OVERHEATING IS A GRAVE DANGER

The cause, low water, is hidden. The effects, burnt bearings, cracked cylinders with consequent loss of time and money, are most serious.

Motalarm tells when the water reaches the danger point. It is a steam siren operating only when the water gets below one inch from the bottom of the tank, and it keeps telling you until you fill your radiator.

## MOTALARM

Motalarm is a 24-hour danger signal. Day and night it stands watch, giving a loud imperative warning note when overheating threatens—with a 30 miles margin of safety to go.

Motalarm is also a water gauge. The tube, coated with a specially prepared paint (which causes the water to adhere), shows the depth of water by simply lifting it from the tank.

This signal cannot mislead. Radiator cap leak cannot affect it. External conditions of extreme heat and cold have no effect on it. It must tell the truth.

**DEALERS**—This is a rare opportunity to run into big sales and splendid profits. The price, \$3, appeals. Every car, truck and tractor owner will see the big factor of safety offered at this reasonable price. Write for our splendid offer.

**JOBBERS**—Motalarm is a live stock item. Our sales plan to you is liberal. Write for it.

## THE MOTALARM CORP.

*Licenses Nolan Patent*

Executive Offices: 1777 Broadway  
New York

*You Don't Have to Watch It*



# SAVE

## The Profits You Are Losing On Distilled Water

WHY pay good money to some one else for distilled water? Produce all you want, *yourself*, at only 1½c a gallon with the

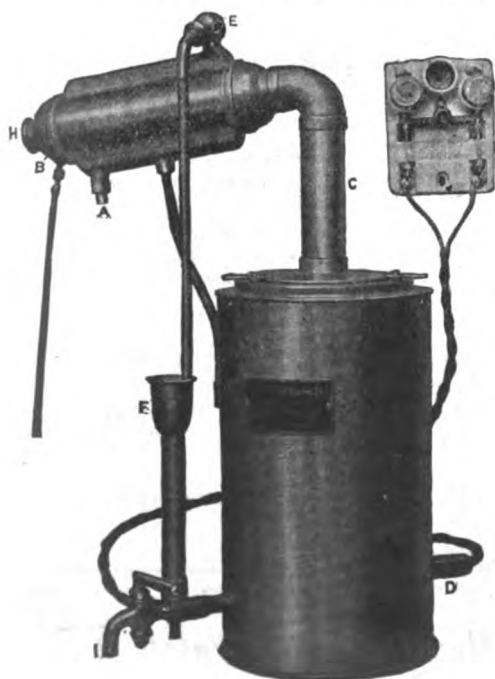
## BARNSTEAD WATER STILL

SO pure is the yield of the Barnstead Water Still that analysis shows but 1 part mineral matter to a million. What better could be desired? That's just the kind of distilled water the Barnstead Still will produce for *you*. Why not install one? The money you pay out now to someone else's benefit will quickly pay for the Still and, after that, every cent saved is *clear gain*.

The Barnstead operates on electricity, kerosene, gasoline, or steam. Automatic operation—no attention needed when running. Every still tested before leaving factory. We have Stills that meet your requirements. Think this over and ask us to send our illustrated booklet.

### BARNSTEAD STILL & STERILIZER CO.

5 LANESVILLE TERRACE, FOREST HILLS,  
BOSTON, MASS.  
189 WEST MADISON STREET, CHICAGO, ILL.



Barnstead Stills are made in sizes to produce one-half gallon per hour up of distilled water. A still containing one-half gallon capacity costs \$18.70 and will last indefinitely.

## STAHL RECTIFIER 20% to 25% Lower in Price than Motor Generator Set of Same Capacity

Is the most flexible charging outfit ever marketed. Any combination of batteries from 18 to 33 cells can be charged on each circuit. Because of an independent regulator for each circuit, these three circuits can be charged at any rate from 4 to 12 amperes. One circuit can be charging one line of batteries at a rate of 10 amperes; another circuit can be charging at a rate of only 5 amperes; while the third circuit can be charging at an entirely different rate—all three operating at the same time.

### 90% Efficient Under Full Load

Complete with switchboard, voltmeter, ammeters and voltage regulators, all ready to connect up to main line and batteries. Can be set out of the way. Requires space only 22 inches square and 5½ feet high.

We make charging apparatus of various capacities. Write for catalog and state what your exact requirements are.

**STAHL RECTIFIER CO.**  
1405 West Jackson Blvd., Chicago, Ill.



Model Six  
Side View  
Screen  
Removed

## THE TWITCHELL AIR GAUGE \$150

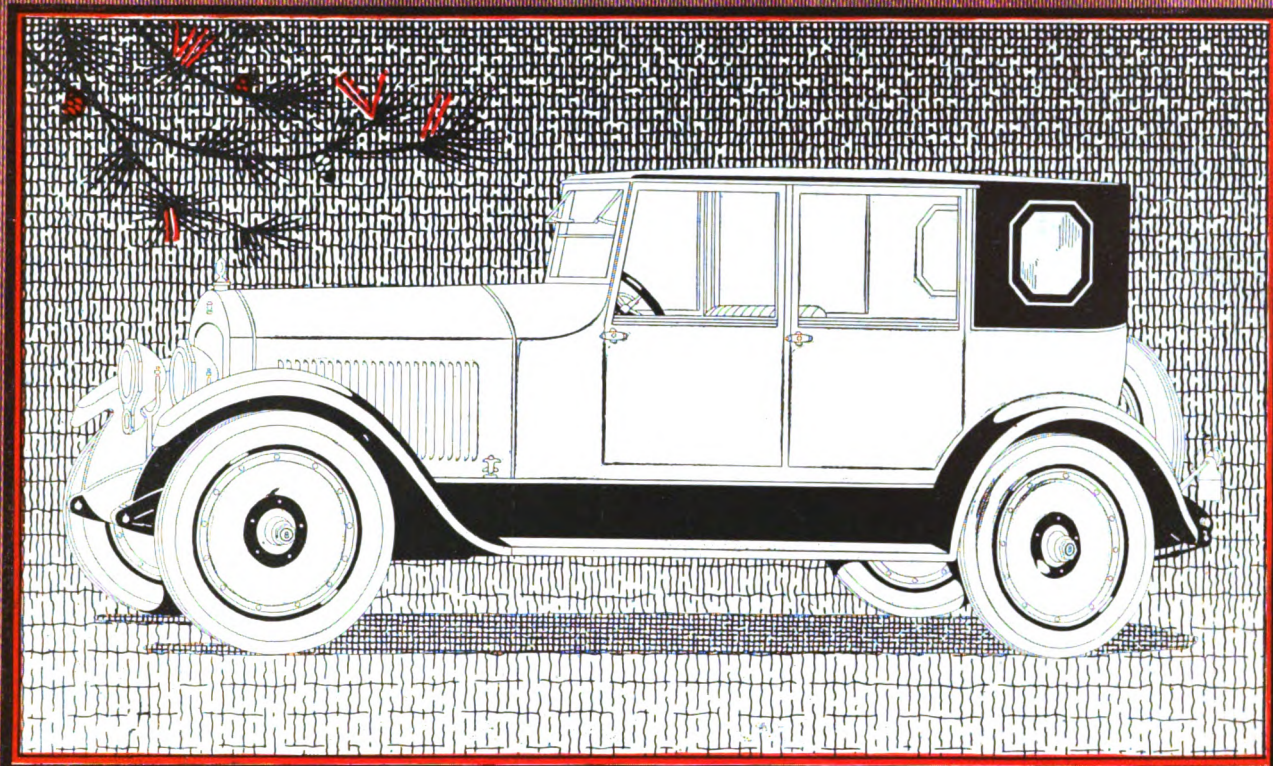


NO MOTORIST who values freedom from blowouts and long life of tires should be without one. You may think you can guess your tire inflation "near enough," but you can't.

"Near enough" pressure means "near enough" mileage. Measure your air pressure with a Twitchell gauge and get MAXIMUM mileage.

At your dealers or  
**The Twitchell Gauge Co.**  
1516 South Wabash  
Avenue  
CHICAGO





## *Cole* Aero-EIGHT

INIMITABLE NEW BODY CONCEPTIONS  
UNPARALLELED RIDING COMFORT

For years, the original creations offered by Cole have determined the subsequent trend of motor car design. And each succeeding season, their early appearance has given Cole dealers a striking advantage when buying begins. The complete line of exclusive, new *Cole* Aero-EIGHT all-season cars will be ready at the usual early date this year.

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*All prices are guaranteed against reduction during 1919*

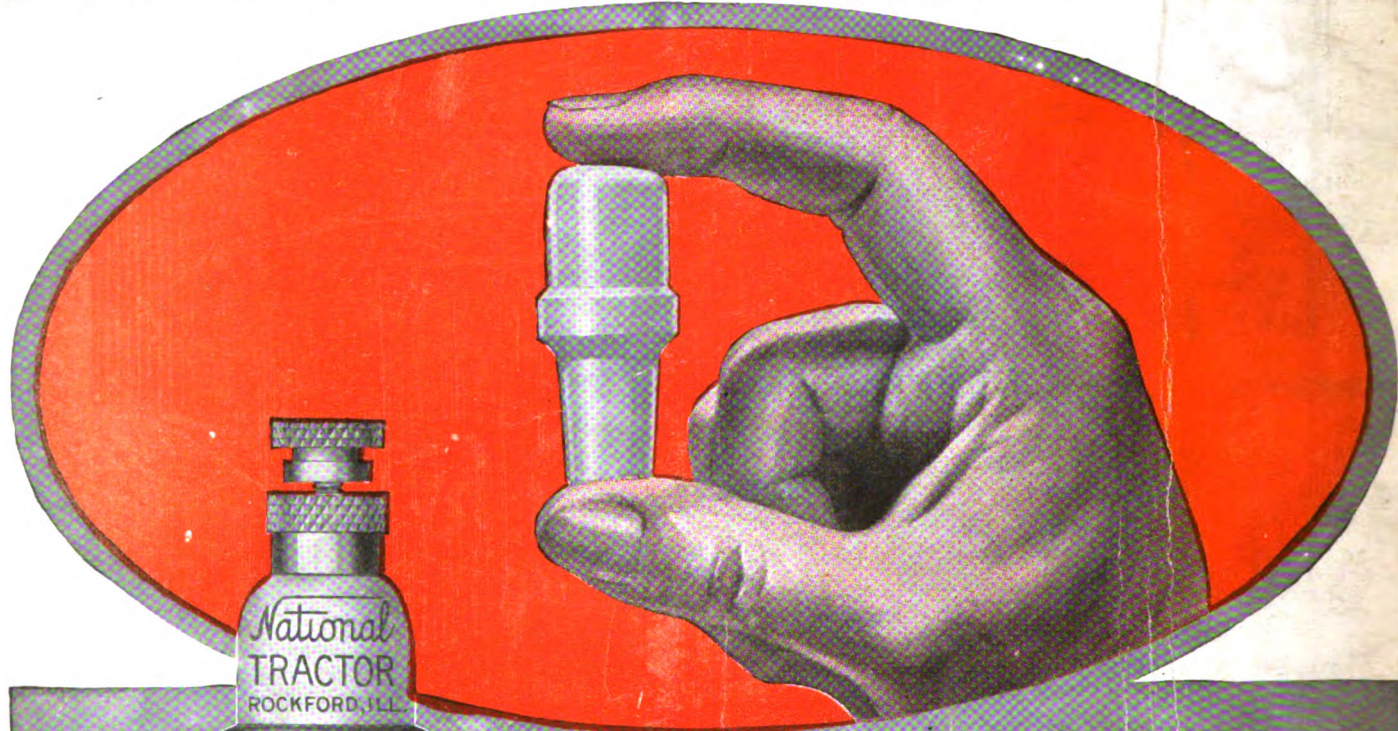
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Cole Motor Car Company, Indianapolis, U. S. A.



# National

## BIG POWER SPARK PLUG



### Tractor Special Big Stone Insulator

Practically unbreakable — heat-proof — oil-proof — trouble-proof — compression-tight. Equipped with BIG Power — oversize electrodes of extra heavy wire — designed specially to ignite low grade oils that have a tendency to slow, lazy ignition.

The NATIONAL Tractor Special — designed to meet the requirements of tractors and high-compression stationary engines — is a BIG Power, sturdy, oversize, dependable plug that stands up under heavy-duty requirements and is unequalled for durability, steady service and economy of fuel.

NATIONAL Spark Plugs are made in all sizes — to fit any motor — for every requirement of air, land and water service. Every plug is assembled by hand, carefully inspected and rigidly tested.

*Ask your dealer or write for Descriptive Booklet*

Prices. Standard sizes for automobiles, etc., \$1 each; Tractor Special, \$2 each.

**NATIONAL SPARK PLUG CO.**

**Rockford, Ill.**

New York Pittsburgh Atlanta San Francisco Dallas Tulsa, Okla.  
Export Department: WERNER & BUTTS, 336 Whitehall Bldg., New York, U. S. A.



















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